

ZWA  
4  
U585P  
No. 33

NATIONAL LIBRARY OF MEDICINE

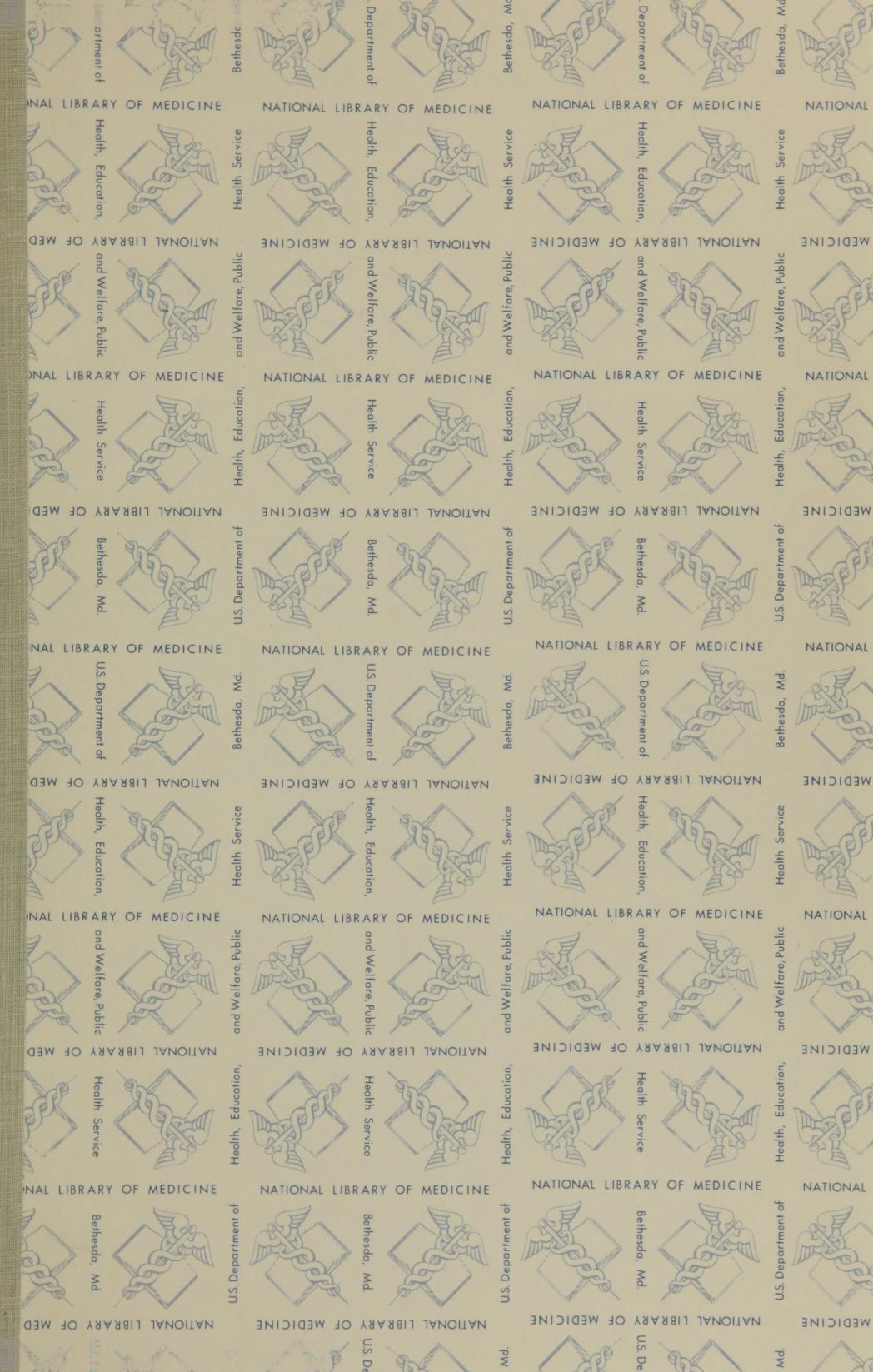
# *Salmonella;* *Salmonella* *Infections*

BIBLIOGRAPHY OF LITERATURE  
1955 - APRIL 1960

U. S. DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE  
Public Health Service













U.S. Public Health Service

NATIONAL LIBRARY OF MEDICINE

Reference Division

SALMONELLA; SALMONELLA INFECTIONS

Bibliography of Literature

1955-April 1960

Compiled by  
Dorothy Bocker, M.D.  
Medical Officer

U.S. DEPARTMENT OF HEALTH, EDUCATION,  
AND WELFARE

Public Health Service  
Washington, D.C.  
May 1960

ed behavior  
G.M. well timed  
Arch.  
ZWA  
4  
4585P  
no. 33  
1960  
C. 2

NATIONAL LIBRARY OF MEDICINE  
BETHESDA 14, MD.

## INTRODUCTION

SALMONELLAE are pathogenic to man, and, with the exception of *Salmonella typhosa*, to animals as well. The incidence of infection in the form of single cases and in outbreaks is worldwide. Although preventive measures have reduced the occurrence of typhoid and paratyphoid fevers, reported cases of diseases caused by the vast number of the lesser known salmonellae have markedly increased. This may be due in part to refinements of laboratory technic which have made diagnosis more accurate; however, greater importation of infected foodstuffs and animals and more travellers of all kinds may be of significant importance in the spread of salmonellae infections.

The bibliography is designed for the use of workers in the clinical and research fields of medicine and public health. English, French, German, Italian, and Spanish references have been selected from an examination of the literature and from indexes and catalogs available in the National Library of Medicine; the time period covered is 1955–April 1960. Occasional brief annotations have been added to entries, which are listed under four broad headings without cross references. An asterisk indicates that the entry has not been examined.

DOROTHY BOCKER, M.D.  
*Medical Officer,  
National Library of Medicine.*



## CONTENTS

	Page
I. Laboratory.....	1
A General.....	1
B Types.....	5
C Bacteriophages: Genetics.....	9
D Antigens.....	12
II. Animal Infections.....	16
III. Human Infections.....	20
IV. Epidemiology.....	27
V. Author Index.....	33



## I. LABORATORY

### A. General

1. AMERICAN PUBLIC HEALTH ASSOCIATION. Recommended methods for the microbiological examination of foods. New York, Am. P. Health Ass., 1958. 207 p. *Salmonella*, p. 155, 158, 159, 160, 162.
2. BACHRACH, U. An improved method for the determination of lysine decarboxylase activity of salmonellae. *Techn. Bull.*, 1959, 29: 194-195. 7 references. 24 strains of salmonellae.
3. BAQUERIZO AMADOR, L., and RODRÍGUEZ BAQUERIZO, O. Procedimiento para el diagnóstico de las enterobacteriaceas. *Rev. ecuat. hig.*, 1959, 16: 25-51. 13 references. Serum O, 4 groups, 26 different salmonellae. Serum H, 5 groups, 20 different salmonellae.
4. BARON, L. S., CAREY, W. F., and SPILMAN, W. M. Characteristics of a high frequency of recombination (HFR) strain of *Salmonella typhosa* compatible with *salmonella*, *shigella* and *escherichia* species. *Proc. Nat. Acad. Sc. U.S.* 1959, 45: 1752-1757. 18 references.
5. BECKER, M. E., and HARTSELL, S. E. The synergistic action of lysozyme and trypsin in bacteriolysis. *Arch. Biochem., N.Y.*, 1955, 55: 257-269. 14 references. Salmonellae included in tests.
6. BERGNER-RABINOWITZ, S. The survival of coliforms *Streptococcus faecalis* and *Salmonella tennessee* in the soil and climate of Israel. *Appl. Microb.*, 1956, 4: 101-106.
7. BERRY, L. J. Altitude stress; its effect on tissue citrate and salmonellosis in mice. *Proc. Soc. Exp. Biol., N.Y.*, 1957, 96: 246-249.
8. BERRY, L. J. Effect of malonate on growth rate of *Salmonella typhimurium* in mice. *Ann. N. York Acad. Sc.*, 1955, 62: 329-347.
9. BRANDIS, H., and THOMSEN, M. Zur Kenntnis von *Salm. java*. *Zschr. Hyg.*, 1955, 141: 551-556. 33 strains.
10. BRENNER, S., and LEVY, P. R. Nonconversion of beta-hydroxy-pyruvic acid to serine in serine auxotrophs of *Salmonella typhimurium*. *S. Afr. J. M. Sc.*, 1955, 20: 92.
11. BROCKE, H. Eine sacharose-positive *Salmonella heidelberg*. *Zbl. Bakt. I. Abt. Orig.*, 1956, 166: 66. A rare biochemical atypical variant.
12. BRUCE, V. G., and MAALE, G. Ultraviolet inactivation of synchronously dividing salmonella, postirradiation effects on viability. *Biochim. biophys. acta, Amst.*, 1956, 21: 227-233.
13. BURROWS, W. Textbook of microbiology. 17th ed. Philadelphia, Saunders, 1959. 954 p. The *Salmonella* group, p. 470-478, under the headings: Morphology and staining, physiology, toxins, immunological differentiation, antigenic structure, classification, variation, phage typing, ecology, bacteriological diagnosis of salmonella infection, and pathogenicity for lower animals. *Salmonella infections*, p. 478-480. Typhoid and paratyphoid fevers, p. 480-489.
14. BUTTIAUX, R., and MORIAMEZ, J. Le milieu au sélénite-vert brillant pour la recherche des salmonella: Ses avantages et inconvenients. *Ann. Inst. Pasteur Lille*, 1957, 9: 90-96.
15. BUXTON, A. The in vivo sensitization of avian erythrocytes with *Salmonella gallinarum* polysaccharide. *Immunology*, 1959, 2: 203-210. 15 references. 3 tables summarize findings.
16. CALDWELL, W. Encapsulated form of *Salmonella* sp. type rubislaw. Related to *Klebsiella* type 13, and obtained from cerebrospinal fluid. *Am. J. Clin. Path.*, 1955, 25: 218-220.
17. CAMERON, J. A., HOLTMAN, D. F., and JEFFRIES, C. D. The association of virulence with endotoxin in *Salmonella pullorum*. *J. Infect. Dis.*, 1960, 106: 159-161. In vitro experiments with various strains of *S. pullorum* to determine the virulence of their endotoxins.
18. CARLQUIST, P. R. A biochemical test for separating paracolon groups. *J. Bact., Balt.*, 1956, 71: 337-341. 10 references. Simple test to separate strains of *Arizona* and *Bethesda-Ballerup* groups.
19. CHRISTIAN, J. H. B. The effects of washing treatments on the composition of *Salmonella oranienburg*. *Austral. J. Biol. Sc.*, 1958, 11: 538-547.

20. COOPER, G. N. A rapid method for the identification of salmonella species. *J. Path. Bact., Lond.*, 1956, 72: 39-45. Technic.
21. DIETZE, G. Die Wirkung einiger Desinfektionsmittel gegen Salmonellen. *Msh. Vet. med.*, 1957, 12: 576-577.
22. DOERING, P., and FRITZE, E. Über die Verteilung eines bakteriellen Endotoxins im Blut (in vitro). *Zschr. ges. exp. Med.*, 1959, 132: 328-333. Endotoxin derived from *S. abortus equi*.
23. DOERING, P., CLEMENS, H., and FRITZE, E. Die Verteilung eines markierten Endotoxins im Organismus. *Zschr. ges. exp. Med.*, 1959, 131: 334-345. 36 references.
24. DOTTI, F., and CASETTA, R. Patogenicità e fimbriatura in *Salmonella typhimurium*. *Igiene mod.*, 1959, 52: 21-28.
25. DOTY, P., MARMUR, J., EIGNER, J., and SCHILDKRAUT, C. Strand separation and specific recombination in desoxyribonucleic acids; physical chemical studies. *Proc. Nat. Acad. Sc. U.S.A.*, 1960, 46: 461-476. 30 references. Hybrids from between the strands of bacteria closely related genetically.
26. EDWARDS, P. R., FIFE, M. A., and EWING, W. H. Newer biochemical methods in the recognition of shigellae and salmonellae. *Am. J. M. Techn.*, 1956, 22(6a): 28-35. Salmonellae distinguished from *E. freundii* and related forms by using the ninhydrin and KCN tests.
27. EDWARDS, P. R., and EWING, W. H. Identification of enterobacteriaceae. Minneapolis, Minn., Burgess, 1955. 179 p. Isolation of enteric bacteria, p. 1-5. The genus salmonella, p. 16-64. 71 references. Simplified salmonella diagnosis, p. 65-71. Bacteriophage typing of *Salmonella typhi*, p. 73-80. Arizona group, p. 81-90.
28. EDWARDS, P. R., and FIFE, M. A. Cyanide media in the differentiation of enteric bacteria. *Appl. Microb.*, 1955, 4: 46-48. A large series of salmonellae tested.
29. EWING, W. H., and EDWARDS, P. R. The principal divisions and groups of enterobacteriaceae and their differentiation. *Int. Bull. Bact. Nomen. Toxon.*, 1960, 10: 1-12. 19 references. 4 divisions. 2d division includes salmonellae; tables 4 and 5, p. 8 and 9, give details.
30. FALKOW, S. Activity of lysine decarboxylase as an aid in the identification of salmonellae and shigellae. *Am. J. Clin. Path.*, 1958, 59: 598-600.
31. FISCHER, G. W. Über einen Indolpositiven Stamm von *Salmonella thompson*. *Zbl. Bakt. I. Abt. Orig.*, 1956, 166: 151-152. The first indol-positive *S. thompson* reported.
32. FRANK, J. F., and WRIGHT, G. W. Susceptibility of salmonella organisms to formaldehyde fumigation. *Canad. J. Comp. M.*, 1955, 19: 71-75. *S. pullorum* especially susceptible.
33. FRITZE, E., and DOERING, P. Die Transport eines markierten Endotoxins im Blut. *Zschr. ges. exp. Med.*, 1959, 132: 334-336. Endotoxin derived from *S. abortus equi*.
34. FROMME, D., LÜDERITZ, O., NOWOTNY, A., and WESTPHAL, O. Chemische Analyse des Lipopolysaccharids aus *Salmonella abortus equi*. *Pharm. acta helvet.*, 1958, 33: 391-400.
35. FURNESS, G. Interaction between *Salmonella typhimurium* and phagocytic cells in cell culture. *J. Infect. Dis.*, 1958, 103: 272-277. Cells from the monkey and the mouse used in experiments.
36. GREENBERG, B. Persistence of bacteria in the developmental stages of the housefly. I. Survival of enteric pathogens in the normal and aseptically reared host. *Am. J. Trop. M. Hyg.*, 1959, 8: 405-411. 11 references. Salmonellae included in study.
37. GREENBERG, B. Persistence of bacteria in the developmental stages of the housefly. II. Quantitative study of the host contaminant relationship in flies breeding under natural conditions. *Am. J. Trop. M. Hyg.*, 1959, 8: 412-416.
38. HARVEY, R. W. S. Choice of a selective medium for the routine isolation of members of the salmonella group. *Month. Bull. Min. Health Gr. Britain*, 1956, 15: 118-124.
39. HEINRICH, H. Grundriss der Bakteriologie und Serologie für medizinisch-technische assistentinnen. 3d ed. Jena, Fischer, 1959. 134 p. Salmonellen, p. 32-40.
40. HINTON, N. A. Antibiotic combinations; a study of the combined activity of streptomycin and chloramphenicol. *Canad. M. Ass. J.*, 1959, 81: 819-827. 9 references. In vitro tests using *E. coli* and *S. typhimurium*.
41. HOYT, R. E., and PICKETT, M. J. Use of "rapid substrate" tablets in the recognition of enteric bacteria. *J. Clin. Path.*, 1957, 27: 343-351. Salmonellae included among bacteria tested.
42. HUEY, C. R., and EDWARDS, P. R. Resistance of *Salmonella typhimurium* to tetracyclines. *Proc. Soc. Exp. Biol., N.Y.*, 1958, 97: 550-551.
43. INO, J., and GRABER, C. D. Recovery of salmonella from contaminated cultures. *U.S. Armed Forces M. J.*, 1955, 6: 586-587.
44. IRANI, S. B., GANGULI, S., and SOMAN, S. *Salmonella cambridge* in Bombay. *Ind. J. M. Sc.*, 1959, 13: 767-768.

45. JEYNES, M. H. Growth and properties of bacterial protoplasts. *Nature, Lond.*, 1957, 180: 867. Brief summary of experimental findings in a group of bacteria including some salmonellae.
46. JOACHIN, A., MAYES, O., and OLARTE, J. The sensitivity of salmonella species to synnematin B, chloramphenical, and tetracyclines; a study of 110 freshly isolated strains. *Antibiotics*, 1959, 9: 349-352.
47. \*KAMPELMACHER, E. H. Über Vorkommen und Isolierung von Salmonellen bei normalen Schlachtrindern den Niederlanden. *Zbl. vet. Med.*, 1957, 4: 198-204. Details of media used.
48. KAUFFMANN, F. Supplement to the Kauffmann-White scheme. *Acta path. microb. scand.*, 1958, 43: 247-253.
49. KAUFFMANN, F., and EDWARDS, P. R. Revised, simplified Kauffmann-White scheme. *Acta path. microb. scand.*, 1957, 41: 242-246. List of necessary O and H antisera; simplified table for rapid identification of salmonella types.
50. KAUFFMANN, F., and PETERSEN, A. Biochemical group and type differentiation of enterobacteriaceae by organic acids. *Acta path. microb. scand.*, 1956, 38: 481-491.
51. KAUFFMANN, F. Zur Differentialdiagnose und Pathogenität von *Salmonella* java und *Salmonella paratyphi* B. *Zschr. Hyg.*, 1955, 141: 546-550. Biochemical differentiation.
52. KELLY, F. C., and HITE, K. E. Microbiology. 2d ed. New York, Appleton, 1955. 615 p. The salmonella group, p. 384-388. Typhoid and paratyphoid fevers, p. 389-392. Differential reactions of salmonella species, including antigenic formulae and biochemical reactions, Table 13, p. 386.
53. KENNER, B. A., ROCKWOOD, S. W., and KABLER, P. W. Isolation of members of the genus salmonella by membrane filter procedures. *Appl. Microb.*, 1957, 5: 305-307. Table 2, p. 306: recoveries of 13 serological types.
54. KHOMIK, S. R., and GALAEV, I. V. Biochemistry of amino acid metabolism in *Salmonella typhimurium* (Breslau). *J. Microb. Epidem. Immun.*, 1958, 29: 547-552. *S. typhimurium* decarboxylates arginine.
55. KJELDGAARD, N. O., MAALØE, O., and SCHAECHTER, M. The transition between different physiological states during balanced growth of *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1958, 19: 607-616. \*\* \* two of the major synthetic functions of the bacterial cell form separate systems within which different, distinct control mechanisms operate."
56. LANDY, M., and PILLEMOR, L. Increased resistance to infection and accompanying alteration in properdin levels following administration of bacterial lipopolysaccharides. *J. Exp. M.*, 1956, 104: 383-409. 28 references. 3 types of salmonellae included.
57. \*LEHNERT, E., and THAL, E. Die Erfassung von Dissoziationsformen von Salmonellae stämmen mittels ihrer Elektrolytempfindlichkeit. *Zbl. vet. Med.*, 1959, 6: 145-153.
58. MAGASAIC, B. The metabolic regulation of purine interconversions and of histidine biosynthesis. In: McELROY, W. D. and GLASS, B., eds. A symposium on the chemical bases of development: Sponsored by the McCollum-Pratt Institute of the Johns Hopkins University with support from the National Science Foundation. Baltimore, The Johns Hopkins Press, 1958, p. 485-494. 18 references. *S. typhimurium*, p. 488-489.
59. \*MANN, P. H. Sensitivity testing of 200 strains of salmonella to furazolidone. *Poultry Sc.*, 1958, 37: 1468-1469.
60. MERCHANT, I. A., and PACKER, R. A. Veterinary bacteriology and virology. 5th ed. Ames, Iowa, The Iowa State College Press, 1956. 850 p. *Salmonella*, p. 341-369. 61 references. Recent changes in classification are based on antigenic structure.
61. MORGAN, H. R. The salmonella. In: DUBOS, R. J. ed. Bacterial and mycotic infections of man. 3d ed. Philadelphia, Lippincott, 1958, p. 375-388. 17 references. Description of laboratory studies, diagnosis, therapy, carriers, immunization and epidemiology.
62. NASZ, I. Experiments with filtrable forms of *Salmonella enterididis* var. danysz. *Acta biol.*, 1959, 10: 215-221.
63. NIUTTA, R., and GIUFFRIDA, G. L'azione del C. A. F. sulla diffusione di amino acidi liberi dalla cellula batterica di *Salmonella* bareilly. *Riv. Ist. sieroter. ital.*, 1959, 34: 382-387. 6 references. Effect of chloramphenicol on *S. bareilly* in vitro.
64. OVALEKAR, K. I. R., and SANT, M. V. Some observations on the use of culture media in isolation and identification of salmonellae. *Indian J. M. Sc.*, 1959, 13: 909-914. 13 references. 26 strains identified by biochemical reactions.
65. PETERSON, R. G., and HARTSELL, S. E. The lysozyme spectrum of the gram-negative bacteria. *J. Infect. Dis.*, 1955, 96: 75-81. *Salmonella* group included in tests.
66. RAPPAPORT, F., HIRSCHBERG, I., and KONFORTI, N. Modified tetrathionate enrichment medium for certain salmonellae. *Acta med. orient.*, Tel-Aviv, 1956, 15: 84-87.

67. ROGERS, R. E., and GUNDERSON, M. F. Roasting of frozen stuffed turkeys. I. Survival of *Salmonella pullorum* in inoculated stuffing. *Food Res.*, 1958, 23: 85-95. Temperature of 160° F. must be reached to assure destruction of *S. pullorum*.
68. ROSEN, F. R., and LANDY, M. Inactivation of endotoxin by a humoral component. V. EDC activity during gram-negative infection and shock. *Zschr. Immunforsch.*, 1959, 118: 262-268. 10 references. Animal tests and clinical cases. Test negative; in 5 of the human cases the endotoxin detoxifying component was absent or greatly depressed.
69. RUIZ REYES, G., and SUAREZ PUERTO, A. M. Estudio sobre la incidencia y tipos de enterobacterias aisladas en la ciudad de Puebla. Comunicación del primer aislamiento de *Salmonella* san juan verificado en la República Mexicana. *Medicina, Méx.*, 1956, 36: 226-228. 1,600 cultures.
70. SAKAZAKI, R., NAMIOKA, S., and WATANABE, S. The occurrence and distribution of *Salmonella* and Arizona in Japan. *Jap. J. Exp. M.*, 1959, 29: 15-35. 77 references. Author uses arizona not as a type of salmonella but as a separate group not too different from salmonella.
71. SCHAECTER, M., MAALØE, O., and KJELDGAARD, N. O. Dependency on medium and temperature of cell size and chemical composition during balanced growth of *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1958, 19: 592-606. 28 references.
72. SCHÄFLER, S., MINTZER, L., and SCHÄFLER, C. Acquisition of lactose fermenting properties by salmonellae. *J. Bact., Balt.*, 1960, 79: 203-212. 15 references. S. stanley, S. heidelberg, S. glostrup and S. minnesota.
73. SCHÄFLER, S., and MINTZER, L. Acquisition of lactose-fermenting properties of salmonellae. Interrelationship between fermentation of cellulose and lactose. *J. Bact., Balt.*, 1959, 78: 159-163. Table 1., p. 160, summarizes results in 56 different types of salmonellae.
74. SCHNEWEIS, K-E. Zur Mikromorphologie glatter rauher Enterobacteriaceen-Kulturen. *Zbl. Bakt. I. Abt. Orig.*, 1959, 176: 71-80. 14 references. Errors obtained with the use of solid media are eliminated when liquid media are used.
75. SCHWARZ, P., GUMHOLD-JOSPOVIĆ, I., and CIRIE, M. Ein selektiver Bleisulfatagar zur Isolierung der Salmonellen. *Zbl. Bakt. I. Abt. Orig.*, 1956, 167: 38-48. 20 references. Technic in detail. 71 salmonella strains tested.
76. SERVANT, P., REY, L., and BONÉT-MAURY, P. Contribution à l'étude des conditions de conservation de la viabilité d'une souche de bactérie typhique par lyophilisation en vue de la fabrication d'un vaccin radioinactivé. I. Étude de la phase de congélation initiale. Recherches la résistance du bacille typhique à l'exposition aux basses températures. *Ann. Inst. Pasteur, Par.*, 1959, 96: 755-764. Freezing technic described.
77. SHERWOOD, N. P. Typhoidlike infection from a new nonmotile gram-negative rod pathogen. *J. Kansas M. Soc.*, 1959, 13: 546-548. Case. Differential laboratory diagnosis.
78. SHIGA, K., SHIMBAYASHI, K., and YONEMURA, T. A study of changes of respiration in *Salmonella pullorum* following subculture. *Bull. Nat. Inst. Animal Health*, 1958, 36: 63-74.
79. SHIPOLINI, R., KONSTANTINOV, G., TREFONOWA, A., and ATANASSOWA, S. Apocholat-Citrat—Agar zur Isolierung von Shigella-und *Salmonella*-Bakterien. *Zbl. Bakt. I. Abt. Orig.*, 1959, 174: 75-80.
80. SIEBURTH, J. M. Lactose urea agar; a new differential tube medium for the detection of salmonella. *J. Bact., Balt.*, 1956, 72: 278-279.
81. SKARNES, R. C., ROSEN, F. S., SHEAR, M. J., and LANDY, M. Inactivation of endotoxin by a humoral component. II. Interaction of endotoxin with serum and plasma. *J. Exp. M.*, 1958, 108: 685-697. 29 references. Salmonella endotoxin included in tests.
82. SLUVKO, A. L. The variation of *Salmonella typhimurium* in leucocyte cultures. *J. Microb. Epidem. Immun.*, 1958, 29: 29-33.
83. STELLMACHER, W. Über zwei neuere Reaktionen für Enterobakterien. *Msh. Vetmed.*, 1959, 14: 378-381.
84. STOKES, J. L., and BAYNE, H. G. The growth-factor-dependent strains of salmonellae. *J. Bact., Balt.*, 1958, 76: 417-421. 24 strains of 6 types.
85. STOKES, J. L., and BAYNE, H. G. Dwarf colony mutants of salmonellae. *J. Bact., Balt.*, 1958, 76: 136-141. 10 normal strains subject to modifications by change in nutrients.
86. STOKES, J. L., and BAYNE, H. G. Growth rates of salmonella colonies. *J. Bact., Balt.*, 1957, 74: 200-206.
87. STOKES, J. L. Enzymatic aspects of gas formation by salmonella. *J. Bact., Balt.*, 1956, 72: 269-275.

88. STOKES, J. L., and OSBORNE, W. W. A selenite brilliant green medium for the isolation of salmonella. *Appl. Microb.*, 1955, 3: 217-220. This new medium promotes growth of all types except *S. pollorum*.
89. SUTER, E. Interaction between phagocytes and pathogenic micro-organisms. *Bact. Rev., Balt.*, 1956, 20: 94-132. 368 references. Review of literature from 1867. *Salmonellae p.* 98, 99, 109-110.
90. SUZUKI, K., and SAKAGUCHI, G. The nutritional requirements of the genus salmonella. *Jap. J. M. Sc. Biol.*, 1955, 8: 33-38. 144 strains.
91. TAYLOR, J. Bacterial rodenticides and infection with *Salmonella enteritidis*. *Lancet, Lond.*, 1956, 1: 630-633.
92. TAYLOR, W. I. A simple, rapid technic for increasing the recognition of salmonella-suspect colonies. *Am. J. Clin. Path.*, 1958, 30: 361-363.
93. THOMAS, C., and WILSON, J. B. Association of resistance to bile salts and virulence in *Salmonella typhimurium* strains. *Proc. Soc. Exp. Biol., N.Y.*, 1960, 103: 292-294.
94. THOMASON, B. M., CHERRY, W. B., and EDWARDS, P. R. Staining bacterial smears with fluorescent antibody. VI. Identification of salmonellae in fecal specimens. *J. Bact., Balt.*, 1959, 77: 478-485. 7 references, 28 salmonella serotypes. Technic in detail.
95. TIMAKOV, V. D. Microbial variation. London, Pergamon Press, 1959. 202 p. 22 chapters reporting the work of 17 Russian scientists. 7 of the articles deal with *S. typhi* or *S. paratyphi* in conjunction with other bacteria. The work was done following a conference of the Lenin All-Union Academy of Agricultural Science, Moscow, July 21-Aug. 7, 1948.
96. TINELLI, R., and STAUB, A. M. Étude chimique des polyosides somatiques des salmonella. III. Oxidation périodique de polyosides extraits de différentes salmonella. *Bull. Soc. chim. biol., Par.*, 1959, 41: 1221-1231. 20 references.
97. WATANABE, T. Cross resistance of *Salmonella typhimurium* to streptomycin and kanamycin. *J. Bact., Balt.*, 1959, 78: 148-149.
98. WELCH, H., WRIGHT, W. W., REEDY, R. J., and WINTERMERE, D. Antibiotic combinations; in vitro effects on selected group of bacteria. 1. Combinations of oleandomycin with 16 other antibiotics. *Antibiotics Annual, 1957/1958*, p. 738-744. *Salmonellae among bacteria tested.*
99. WILSON, G. S., and MILES, A. A. Topley and Wilson's principles of bacteriology and immunity. 4th ed. 2 vols. London, Arnold, 1955. 2331 p. *Salmonella*, p. 801-856; list of serotypes p. 822-848; references, p. 848-856; food poisoning, p. 1799-1800; animal reservoirs, p. 1800-1804.
100. WRIGHT, G. W., and FRANK, J. F. Penetration of eggs by *Salmonella typhimurium*. *Canad. J. Comp. M.*, 1956, 20: 453-457. Penetration rate higher in low specific gravity eggs.
- B. Types**
101. ALIN, K., and MALMBORG, A-L. A new salmonella type (*S. huvudsta*). *Acta path. microb. scand.*, 1956, 39: 160. [3, 10: 1, 7.]
102. ALIN, K., HEILBORN, V., and HEINERTZ, N. O. A new salmonella type *Salmonella goeteborg* (9, 12: c: 1, 5). *Acta path. microb. scand.*, 1959, 46: 72.
103. ANDERSON, E. S. A new Vi-phage type of *Salmonella typhi*; with a discussion of methods of preparation of typing phages for new Vi-types. *J. Gen. Microb.*, 1956, 14: 676-683. 14 references.
104. ANDERSON, E. S., and WILLIAMS, R. E. O. Bacteriophage typing of enteric pathogens and staphylococci and its use in epidemiology. *J. Clin. Path.*, 1956, 9: 94-137. Enteric pathogens, p. 94-115. 95 references. Included are 11 types of salmonellae.
105. BHAGWAN, SINGH, R. Salmonella types occurring in Malaya. *Proc. Alumni Ass., Malaya, [University of Malaya. Faculty of Medicine]* 1955, 8: 243-257.
106. BILANOW, H., and JUNKER, A. P. New salmonella type. *Salmonella lansing*. *J. Bact., Balt.*, 1960, 79: 305 [38: i-1, 5]
107. BLELOCH, M., and SCHRIRE, L. A new salmonella type; *Salmonella rand* (42: z: e, n, Z 15, Z 16). *S. Afr. J. M. Sc.*, 1957, 22: 27.
108. BÖHLCK, I. Ein neuer Salmonellatyp: *S. kiel* (1, 2, 12: gp). *Arch. Hyg., München*, 1959, 143: 82-84.
109. BOKKENHEUSER, V., and EDWARDS, P. R. A new salmonella type, *Salmonella springs*, possessing a hitherto undescribed H antigen. *J. Path. Bact., Lond.*, 1956, 72: 687-688. [40: a-z 39]
110. BOKKENHEUSER, V. A new salmonella type. *S. Afr. J. M. Sc.*, 1955, 20: 5-7. *S. germiston* [6, 8: mt-enx.]
111. BOOL, P. H., and KAMPELMACHER, E. H. Some data on the occurrence of salmonella in animals in Surinam. *Antonie van Leeuwenhoek, Amst.*, 1958, 24: 76-80. 18 types isolated from cattle, pigs, dogs, rats, wararis, fowl and toads.

112. BROWNING, P. M. H., MOORE, J. M., and STEVENSON, J. S. A new salmonella type; *Salmonella glascow*. *J. Path. Bact., Lond.*, 1959, 77: 650-651. [16: b-1, 6]
113. COLEMAN, M. B., WILSON, M. S., and SICKINGER, C. M. Serotypes of salmonella in New York state outside New York City. *J. Infect. Dis.*, 1959, 104: 207-212. 3,422 strains of salmonella, "other than *S. typhosa*," from human patients.
114. COLLARD, P., and SEN, R. Salmonellae isolated from man in Ibadan (Nigeria). *West Afr. M. J.*, 1958, 7: 91-96. 56 serotypes.
115. COLLARD, P., and SEN, R. Salmonella types isolated in Ibadan, Nigeria. *Tr. R. Soc. Trop. M. Hyg., Lond.*, 1958, 52: 283-287.
116. EDWARDS, P. R., FIFE, M. A., and RAMSEY, C. H. Studies of the Arizona group of enterobacteriaceae. *Bact. Rev., Balt.*, 1959, 23: 155-174. 39 references. Serologic differentiation of Arizona types. Table 5, p. 160, relationship between the O antigen of salmonella spp. and the Arizona group. Table 8, p. 163, indicates this for the H antigen.
117. EDWARDS, P. R., ALTMANN, G., MORAN, A. B., and FIFE, M. A. Five new Arizona serotypes isolated in Israel. (7: 29-25; 9: 22-31; 15: 24-25; 16: 29-31; 24: 24-31). *Bull. Res. Counc. Israel, Sect. E*, 1958, 7 E: 214-216.
118. EDWARDS, P. R., McWHORTER, A. C., and FIFE, M. A. The Arizona group of enterobacteriaceae in animals and man. *Bull. World Health Org.*, 1956, 14: 511-528. This group closely related to salmonellae. 75 strains from patients.
119. EDWARDS, P. R., McWHORTER, A. C., and FIFE, M. A. Occurrence of bacteria of the Arizona group in man. *Canad. J. Microb.*, 1956, 2: 281-287. 87 cultures, 50% are of 2 serotypes.
120. EDWARDS, P. R., VAN OYE, E., and McWHORTER, A. C. Three new Arizona serotypes (25: 29-31; 26: 23-30; and 28: 23-28). *Ann. Soc. belge med. trop.*, 1955, 35: 145-149. One from chameleon and two from snakes.
121. EDWARDS, P. R., RUTTEN, F. J., and McWHORTER, A. C. Four new salmonella types isolated in Curacao. *Antonie van Leeuwenhoek*, 1955, 21: 80-82. [4225-53-4, 5, 12: g, m, s] [4624-53 and 4638-53-6, 7: z<sub>a</sub>, z<sub>a2</sub>] [4626-53-28: d-1, 7] [4693-53-38: r-1, 6]
122. FELIX, A. World survey of typhoid and paratyphoid-B phage types. *Bull. World Health Org.*, 1955, 13: 109-170. 51 references.
123. FEY, H., KAUFMANN, F., and MARGADANT, A. A new salmonella type; *Salmonella zuerich* 1, 9, 12: c: Z39. *Acta path. microb. scand.*, 1957, 41: 325.
124. FLOYD, T. M., and HOOGSTRAAL, H. Isolation of salmonella from ticks in Egypt. *J. Egypt. Pub. Health Ass.*, 1956, 31: 119-128. 16 references.
125. FRIEDMAN, S., WASSERMANN, M. W., and SAPHRA, I. A new salmonella type; *Salmonella blockley*. *J. Bact., Balt.*, 1955, 70: 354-355. [6, 8: k-1.5]
126. FUKUDA, T., SASAHARA, T., KITAO, T., TANIGAWA, H., FUKUMI, H. and MURATA, Y. A new salmonella type; *Salmonella miyazaki* (9, 12: 1, z 13: 1, 7). *Jap. J. M. Sc. Biol.*, 1958, 11: 13-14.
127. GANGULI, S. Salmonella serotypes in India. *Ind. J. M. Res.*, 1958, 46: 637-642. 17 serotypes.
128. GRANT, L. S. A new salmonella type; *Salmonella jamaica* -9, 12: r-1, 5. *West. Ind. M. J.*, 1958, 7(4): 249-250.
129. GULASEKHARAM, J., VELAUDAPILLAI, T., and NADARAJAH, K. N. *Salmonella angoda*; a new salmonella. *Ind. J. M. Res.*, 1959, 47: 484-486. [30: k: enx.]
130. HEILBORN, V., and RUTQVIST, L. A new salmonella type; *S. halmstad*. *Acta path. microb. scand.*, 1958, 42: 28. [3, 15: g, s, t:-]
131. HEILBORN, V., and LAURELL, G. New salmonella type (*S. uppsala*). *Acta path. microb. scand.*, 1957, 40: 39. [4, 12, 27: b: 1, 7]
132. HIRSCH, W., and SAPIRO-HIRSCH, R. A new salmonella type; *Salmonella degania*. *Acta med. orient., Tel-Aviv*, 1955, 14: 297. [40: z4 224]
133. HOFFMANN, K., LINZENMEIER, G., and KALL, W. Ein neuer Salmonella-Typ; *S. frintrop*. *Zbl. Bakt. I. Abt. Orig.*, 1956, 165: 78. From carrier working in hospital kitchen; [1, 9, 12: 1, 5]
134. HOFMANN, P., and WOLLE-JOHN, R. *Salmonella os.* (9, 12: a: 1, 6). *Zbl. Bakt. I. Abt. Orig.*, 1959, 175: 479.
135. HOFMANN, S., and KEISEWALTER, J. Ein neuer Salmonella-Typ; *S. pankow* (3, 15: a: 1, 5). *Zbl. Bakt. I. Abt. Orig.*, 1958, 170: 633-634.
136. HOFMANN, S., and HENZE, B. Ein neuer Salmonella-Typ; *S. neuukoelln*. *Zbl. Bakt. I. Abt. Orig.*, 1955, 163: 572-573. [6, 7: z28-enz 15]
137. HOFMANN, S., and POHL, G. Ein neuer Salmonella-Typ; *S. kaltenhausen*. *Zbl. Bakt. I. Abt. Orig.*, 1955, 162: 543-544. [28: b-26.]
138. HUGHES, K. E., and KING, G. J. A new salmonella serotype; *Salmonella portsmouth*. *Month. Bull. Min. Health Gr. Britain*, 1958, 17: 178-179. [3, 15: 1, v-1, 6]

139. HUGHES, M. H. Salmonella infections in Accra, Ghana, West Africa. *Tr. R. Soc. Trop. M. Hyg., Lond.*, 1958, 52: 377-382. 47 types from human sources.
140. JOSLAND, S. W. Additional salmonella types in New Zealand. *N. Zealand M. J.*, 1956, 55: 139-140. S. weltevreden, (3. 10: r: z6); S. dublin (1.9. 12: g, p:-); S. arecheveleta (4.5. 12: a: 1, 7)
141. JUENKER, A. P., and BILANOW, H. New salmonella type; *Salmonella detroit*. *J. Bact., Balt.*, 1959, 78: 599. [42: z-1(5)]
142. KAMPELMACHER, E. H., FIFE, M. A. and EDWARDS, P. R. A new salmonella type: *Salmonella utrecht*. *Antonie van Leeuwenhoek, Amst.*, 1959, 25: 285-288. [52: d: 1, 5.]
143. KAMPELMACHER, E. H., and CLARENBURG, A. A new salmonella type (S. angola). *Antonie van Leeuwenhoek, Amst.*, 1957, 23: 191-192. [1, 9, 12: z: z<sub>6</sub>.]
144. KAUFFMANN, F., and PETERSEN, A. The biochemical group and type differentiation of enterobacteriaceae by organic acids. *Acta path. microb. scand.*, 1956, 38: 481-491. 2,915 salmonella cultures tested.
145. KAUFFMANN, F., VAN OYE, E., and SCHOETTER, M. A new salmonella type (*Salmonella djugu*) from the Belgian Congo. *Acta path. microb. scand.*, 1955, 37: 464. [6, 7: z-enx]
146. KAUFFMANN, F., and VAN OYE, E. A new salmonella type (*Salmonella korovi*) from the Belgian Congo. *Acta path. microb. scand.*, 1955, 36: 352. [38: g, m, s]
147. KAUFFMANN, F., EDWARDS, P. R., SEE-LIGER, H., and LUND, B. A new salmonella type (6, 14, 18: z 4, z 23). *Acta path. microb. scand.*, 1955, 36: 353-354.
148. KAUFFMANN, F., EDWARDS, P. R., and McWHORTER, A. C. A new salmonella type, *Salmonella decatur*, (6, 7: c: 1, 5). *Acta path. microb. scand.*, 1955, 36: 568-570.
149. KAUFMANN, F. On the biochemical behavior of new salmonella species. *Acta path. microb. scand.*, 1959, 45: 401-405. Tables, p. 402-405, chemical reactions for 30 groups.
150. KAUFMANN, F. On the biochemical behavior of new salmonella types. *Acta path. microb. scand.*, 1958, 43: 175-184.
151. KAUFMANN, F., HEILBORN, V., and RUT-QVIST, L. A new salmonella type: *Salmonella haelsingborg*, 6, 7: m, p, t, u. *Acta path. microb. scand.*, 1957, 41: 326.
152. KAUFMANN, F., HOFMANN, S., and PLATZ, C. Ein neuer Salmonella-Typ: S. dohlem. (48: k: e, n, z15). *Zbl. Bakt. I. Abt. Orig.*, 1956, 167: 94-95.
153. KAUFMANN, F. A new salmonella O subgroup=(9), 46. *Acta path. microb. scand.*, 1956, 38: 69-70. S. strasbourg [= (9), 46: d: 1, 7] S. haarlem [= (9): z: e, n, x.]
154. LABRAQUE-BORDENAVE, M. Les salmonelles du group C. *Montpellier méd.*, 1955, 3: 492-500. 32 references. 16 types in group C.; this group common in central Europe.
155. LE MINOR, L., THOME, M., PERREAU, P., and CHARIE-MARSAINES, C. Un nouveau sérotype de salmonella: S. farcha. *Ann. Inst. Pasteur, Par.*, 1959, 97: 107-108. [43: y: 1, 2]
156. LE MINOR, L., THOME, M., PERREAU, P., and CHARIE-MARSAINES, C. Deux nouveaux sérotypes de salmonella: S. millesi (40: Iv: 1, 2) et S. chad (35: b: -). *Ann. Inst. Pasteur, Par.*, 1959, 97: 406-407.
157. LE MINOR, L., EDWARDS, P. R., MILLE, R., and DRÉAN, D. Un nouveau sérotype de salmonella: *Salmonella quinphon* (47: z 44). *Ann. Inst. Pasteur, Par.*, 1959, 97: 407-408.
158. LE MINOR, L., NEEL, R., DELAGE, B., and DRÉAN, D. Un nouveau sérotype de salmonella. *Ann. Inst. Pasteur, Par.*, 1959, 96: 106-107. [1, 13, 23: y: 1, 6]
159. LE MINOR, L., DARRASSE, H., and CHARIE-MARSAINES, C. Trois nouveaux sérotypes de salmonella. *Ann. Inst. Pasteur, Par.*, 1959, 96: 107-108. S. vuakam, [(9) 46: Z<sub>2</sub>: -], S. camberene, [35: z 10: 1, 5], S. yoff, 38: [z<sub>4</sub> z<sub>2</sub>: 1, 2]
160. LE MINOR, L., and DARRASSE, H. Un nouveau sérotype de salmonella: S. fann. *Ann. Inst. Pasteur, Par.*, 1958, 95: 112-113. [11: 1 v: e n x]
161. LE MINOR, L., DRÉAN, D., and LE TELLIER, H. Un nouveau sérotype de salmonella; *Salmonella lyon* (47: k: enz 15). *Ann. Inst. Pasteur, Par.*, 1958, 95: 113-114.
162. LE MINOR, L., RAVISSE, P., and DRÉAN, D. Deux nouveaux sérotypes de salmonella: S. gamaba (44: gms) et S. baconago (6, 7: z 36: z 42). *Ann. Inst. Pasteur, Par.*, 1958, 95: 746-747. From snakes in Brazzaville.
163. LE MINOR, L., DARRASSE, H., and NAZAUD, R. Un nouveau sérotype de salmonella: S. kaolack (47: z-1, 6). *Ann. Inst. Pasteur, Par.*, 1956, 91: 400-403.
164. LE MINOR, S., LE MINOR, L., KIRSCH, P., BAYLET, R., and SAMAILLE, J. Un nouveau sérotype de salmonella: *Salmonella pi-kine*; ((8) 20: r: z 6). *Ann. Inst. Pasteur, Par.*, 1958, 95: 218-219.
165. LOWE, A. E. and BOKKENHEUSER, V. A new salmonella type: S. alexander (3, 10: z: 1, 5; 1-2). *S. Afr. J. M. Sc.* 1957, 22: 1-2.

166. MORAN, A. B., and EDWARDS, P. R. A new salmonella type; *Salmonella escanaba* (6, 7: k-e, n, z 15). *Int. Bull. Bact. Nomen. Toxon.*, 1959, 9: 113.
167. MORAN, A. B., and EDWARDS, P. R. A new salmonella type; *Salmonella hamilton* (3, 15: Z 27). *Cornell Vet.*, 1958, 49: 196-197.
168. NÉEL, R., LE MINOR, L., and CHARIÉ-MARSAINES, C. Un nouveau sérotyp de salmonella: *S. spartel* (21: d: 1, 5). *Ann. Inst. Pasteur, Par.*, 1959, 97: 409.
169. POLANETZKI, U. Über die Ergebnisse der Typisierung seltener Salmonellen. *Zbl. Bakt. I. Abt. Orig.*, 1958, 172: 69-72.
170. RAMSEY, C. H., and EDWARDS, P. R. Two new salmonella types: *Salmonella holcomb* (6, 8: 1, v-e, n, x) and *Salmonella newrochelle* (3, 10: k-l, w). *Int. Bull. Bact. Nomen. Toxon.*, 1959, 9: 111-112.
171. ROHDE, R., BISCHOFF, J., and TIEDJE, E. *Salmonella altona*=(8), 20: r (i): z 6, ein neuer Salmonellatyp aus Fishmehl. *Zschr. Hyg.*, 1958, 144: 460-461.
172. SAKAZAKI, R., NAMIOKA, S., and EDWARDS, P. R. A new serotype of the Arizona group. *J. Bact., Balt.*, 1958, 75: 9-10. [10 a, 10 c: 13, 15]
173. SANDBU, P. A new salmonella type: *Salmonella lindern* 6, 14, 24: d: e, n, x. *Acta path. microb. scand.*, 1959, 46: 368.
174. SAPIRO-HIRSCH, R., ALTMANN, G., and HIRSCH, W. A new salmonella type; *Salmonella ramat-gan* 30: K: 1, 5. *Israel Med. J.*, 1959, 18: 135.
175. SAPIRO-HIRSCH, R., and HIRSCH, W. Two new salmonella types. S. uno=6, 8: Z<sub>29</sub>: S. hofit=39: i: 1, 5. *Acta med. orient., Tel-Aviv.*, 1958, 17: 80-81.
176. SCHMID, E. E., EDWARDS, P. R., McWHORTER, A. C., and VELAUDAPILLAI, T. A. new salmonella type, *Salmonella jaffna*. *J. Path. Bact., Lond.*, 1955, 69: 337. [I, IX, XII: dz 35]
177. SCHMIDT-LANGE, W., JOEST, W., and MOELLER, M. S. osnabrueck, a new salmonella type. *Zbl. Bakt. I. Abt. Orig.*, 1957, 167: 562-563. [11: 1 z<sub>13</sub>, z<sub>14</sub>- e, n, x]
178. SCHIRE, L., KAUFFMANN, F., and EDWARDS, P. R. A new salmonella type: *Salmonella greenside*, (50: z: e, n). *Acta path. microb. scand.*, 1957, 41: 156-158.
179. SCHIRE, L. A new salmonella type: *Salmonella hillbrow* (17: b: e, n, z<sub>15</sub>, z<sub>16</sub>). *S. Afr. J. M. Sc.*, 1956, 21: 11-12.
180. SEELIGER, H. P. R., SEIDENSTÜCKER, H., and SULZBACHER, F. Ein neuer Salmonella-Typ der B-Gruppe: *S. nordenham* (1, 4, 12, 27: z: e, n.) *Zbl. Bakt. I. Abt. Orig.*, 1958, 172: 351-352.
181. SEELIGER, H. P. R., SEIDENSTÜCKER, H., and SULZBACHER, F. Ein neuer Salmonella-Typ: 16: d, 1, 2 (S. oldenburg). *Zschr. Hyg.*, 1957, 144: 116.
182. SEVEN NEW SALMONELLA SEROTYPES. *J. R. Army M. Corps*, 1959, 105: 134-135. Salm. legon [4, 12: c: 1, 5], Salm. tamale [(8), 20: z<sub>29</sub>:-], Salm. canastel var. monophasic [9, 12: z<sub>29</sub>:-], Salm. akuafo [16: y: 1, 6], Salm. ghana [21: b: 1, 6], Salm. kokomlemle [39: 1, v: e, n, x], Salm. teshie [47: 1, z<sub>13</sub>, z<sub>28</sub>: e, n, z<sub>15</sub>]
183. STEVENSON, J. S., and MCNAUGHT, W. Typing of salmonellae and type specific strains of *E. coli*. *Health Bull., Edinb.*, 1955, 13: 45-46. 124 different strains of salmonellae included.
184. TOUSSAINT, W., and BOKKENHEUSER, V. A new salmonella type. *S. Afr. J. M. Sc.*, 1955, 20: 77-78. S. windhoek, [45: g (t): 1, 5]
185. UETAKE, H., and MAKINO, T. Comparison of infection types with respiratory patterns in salmonella. *Jap. J. M. Sc. Biol.*, 1956, 9: 71-79. 21 references. 15 strains of salmonellae.
186. VAN OYE, E., LUCASSE, C., HERIN, V., and BEAUFORT, M. Trois nouveaux sérotypes du groupe *Salmonella* isolés au Congo Belge: *S. inganda* (6, 7: z 10: 1, 5), *S. ipeko* 9, 12: c: 1, 6) et *S. bolombo* (3, 10: z 38: -). *Ann. Inst. Pasteur, Par.*, 1959, 96: 368-370.
187. VAN OYE, E. Les salmonellae du Congo Belge. *Ann. Soc. belge méd. trop.*, 1958, 38: 225-230. 138 serotypes previously reported. Two new types: *S. busunga* [6, 7: z: e, n, z<sub>15</sub>] and *S. kintambo* [13, 23: g, m, t: -]
188. VAN OYE, E., and LUCASSE, C. Un nouveau sérototype du groupe salmonella isolé au Congo Belge, *S. busunga*=6, 7: z: e, n, z 15. *Ann. Inst. Pasteur, Par.*, 1957, 93: 791-792.
189. VARELA, G., ALONZO, A., and VÁSQUEZ, A. Presencia de la fracción VII de salmonellas en *Candida albicans*. *Rev. Inst. salub. enferm. trop., Méx.*, 1959, 19: 67-68. Table p. 68, indicates the relationship.
190. VASSILIADIS, P., and MAQUET, R. Une nouvelle salmonella isolée au Congo Belge: *S. gombe* (6, 7: d: e n z<sub>15</sub>). *Ann. Inst. Pasteur, Par.*, 1959, 97: 867-868.
191. VELAUDAPILLAI, T. Phage-typing of *S. virchow*. *Zschr. Hyg.*, 1959, 146: 84-88.

192. VINK, H. H., CLARENBURG, A., DeNooy, J. A., and BEKKER, J. H. A new salmonella type (S. haarlem). *Antonie van Leeuwenhoek, Amst.*, 1955, 21: 367-368. [9, 12: e, n, x]
193. WILDFÜHR, G., and HUDEMANN, H. Über einen neuen Salmonellentyp 3, 15: eh: 1, 2. *Zschr. Hyg.*, 1955, 141: 129-131.
- ### C. Bacteriophages: Genetics
194. ADAMS, J. N., and LURIA, S. E. Transduction by bacteriophage PI; abnormal phage function of the transducing particles. *Proc. Nat. Acad. Sc. U.S.*, 1958, 44: 590-594. 18 references.
195. ADAMS, M. H. Bacteriophages. New York, Intersciences Publishers, 1959. 592 p. Bibliography, p. 523-567. Salmonella phage considered under lysogenization, changes in the affected host cell, transduction and production of colicins.
196. AMES, B. N., and DUBIN, D. T. The role of polyamines in the neutralization of bacteriophage deoxyribonucleic acid. *J. Biol. Chem.*, 1960, 235: 769-775. P-22 phage from *Salmonella typhimurium*, p. 769-772.
197. ATKINSON, N., and BULLAS, L. R. *Salmonella* bacteriophages. 6. Some heat-resistant phages. *Austral. J. Exp. Biol.*, 1957, 35: 193-206. 14 phages from lysogenic strains of *S. bovis-morbificans*, *S. potsdam*, *S. muenchen*, *S. bleegdam* and *S. enteritidis*.
198. ATKINSON, N. Lysogenicity of lysis patterns in the salmonellas. 8. Bacteriophage grouping of 167 strains of *S. bovis*-morbificans. *Austral. J. Exp. Biol.*, 1956, 34: 349-360. 120 strains placed in 5 groups; 47 ungrouped.
199. ATKINSON, N., and BULLAS, L. R. *Salmonella* bacteriophages. 3. Two new bacteriophages of *S. adelaide*. *Austral. J. Exp. Biol.*, 1956, 34: 27-32. Isolated from lysogenic strains.
200. ATKINSON, N. Lysogenicity and lysis patterns in the salmonellas. 3. A bacteriophage grouping of *S. adelaide*. *Austral. J. Exp. Biol.*, 1955, 33: 371-374.
201. ATKINSON, N., and KLAUSS, C. Lysogenicity and lysis patterns in the Salmonellas. 4. Application of a bacteriophage grouping scheme to 413 strains of *S. adelaide*. *Austral. J. Exp. Biol.*, 1955, 33: 375-379. 393 strains typed.
202. BANIC, S. Evidence of reverse mutation from streptomycin resistance to sensitivity in *Salmonella typhimurium*. *Schweiz Zschr. allg. Path.*, 1959, 22: 511-514.
203. BANIC, S. Transduction to penicillin and chloramphenicol resistance in *Salmonella typhimurium*. *Genetics*, 1959, 44, pt. 2: 449-455.
204. BARON, L. S., SPILMAN, W. M., and CAREY, W. F. Hybridization of salmonella species by mating with *Escherichia coli*. *Science*, 1959, 130: 566-567.
205. BERTANI, G. Lysogeny. *Advances Virus Res.*, 1958, 5: 151-193. 121 references. Phage P 22, p. 159-165; cooperation, p. 171; transduction, p. 182-183.
206. BERTANI, G. Sensitivities of different bacteriophage species to ionizing radiations. *J. Bact., Balt.*, 1960, 79: 387-393. Table 1, p. 388, includes phage "0-1" from *S. paratyphoid B*. Table 2, p. 390, includes phage P 22 from *S. typhimurium*.
207. BOYD, J. S. K., and BIDWELL, D. E. The A phages of *Salmonella typhimurium*; identification by a standardized cross-immunity test. *J. Gen. Microb., Lond.*, 1957, 16: 217-228. 578 phages places in 12 groups.
208. BRANDIS, H., and HOFMANN, S. Über Änderungen im Lysotyp bei Transduction des Merkmals Beweglichkeit. *Zbl. Bakt. I. Abt. Orig.*, 1959, 176: 65-70. 12 references.
209. BRANDIS, H. and STORCH, I. Über die Lysotypie von Parotyhus B-Bakterien mit zusätzlichen Phagen von Scholtens. *Zbl. Bakt. I. Abt. Orig.*, 1957, 169: 358-365. 10 references.
210. BRENNER, S. Tryptophan biosynthesis in *Salmonella typhimurium*. *Proc. Nat. Acad. Sc. U.S.*, 1955, 41: 862-863. 10 mutants placed in 4 distinct groups.
211. BULLING, E. Die Bakteriophagen-Differenzierung von *Salmonella typhimurium*. *Tierärz. Wschr., Berl.*, 1960, 73: 69-72. 11 references. 298 strains.
212. BURNET, F. M., and STANLEY, W. M., eds. The viruses; biochemical, biological and biophysical properties. New York, Academic Press, 1959. 3 vol. 1442 p. Vol. I. "Salmonella typhimurium the linear order of many genes \* \* \*," p. 134. Transduction, p. 381-382, 558. Conversions by phage in salmonella genus, p. 556. Vol. II. *Salmonella* phage E<sub>15</sub>, p. 218-219. Host-controlled variation in *S. typhimurium* and *S. gallinarum*, p. 312. Lysogeny, occurrence, p. 323-324; conversions, p. 334. Phenotypic aspects, p. 340. Genetics, p. 340-341; temperate phages as genetic vectors, p. 345-347.
213. CALLOW, B. R. A new phage-typing scheme for *Salmonella typhimurium*. *J. Hyg., Lond.*, 1957, 57: 346-359. 15 references.

214. CAVALLI-SFORZA, L. L. Bacterial genetics. *Ann. Rev. Microb.*, 1957, 11: 391-418. 182 references. *Salmonellae*, p. 397-399, 411-412, 413.
215. CEFALU, M. and DEL CARPIO, C. Sul fenomeno della "trasduzione genetica" in specie batteriche del genere salmonella. *Riv. Ist. sieroter. Ital.*, 1955, 30: 393-404. 19 references.
216. CLOWES, R. C. Nutritional studies of cysteineless mutants of *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1958, 18: 140-153.
217. CLOWES, R. C. Investigation of the genetics of cysteineless mutants of *Salmonella typhimurium* by transduction. *J. Gen. Microb., Lond.*, 1958, 18: 154-172. 22 references.
218. COLOBERT, L. Étude de la lyse de salmonelles pathogènes provoquée par le lysozyme, après délipidation partielle de la paroi externe. *Ann. Inst. Pasteur, Par.*, 1958, 95: 156-167. 32 references. Lysozyme activated with heat, ethylene-diamintetraacetic acid or alcoyl sulfate.
219. COLOBERT, L. Gonflement de la paroi externe des salmonelles par l'effet du lysozyme. *C. rend. Soc. biol.*, 1957, 151: 1553-1555.
220. DEMEREC, M. and HARTMAN, P. E. Complex loci in microorganisms. *Ann. Rev. Microb.*, 1959, 13: 377-406. 190 references. *Salmonella*, Table I, p. 380; also under various headings, p. 387-391 and p. 396-398.
221. DEMEREC, M., and OZEKI, H. Tests for allelism among auxotrophs of *Salmonella typhimurium*. *Genetics*, 1959, 44: 269-278. 18 references.
222. DEMEREC, M., GOLMAN, I., and LAHR, E. L. Genetic recombination by transduction in salmonella. *Sympos. Quant. Biol.*, 1958, 23: 59-68.
223. DEMEREC, M. A comparative study of certain gene loci in salmonella. *Sympos. Quant. Biol.*, 1956, 21: 113-121. 15 references.
224. DEMEREC, M., BLOMSTRAND, I., and DEMEREC, Z. E. Evidence of complex loci in salmonella. *Proc. Nat. Acad. Sc. U.S.*, 1955, 41: 359-365. 250 mutants of *S. typhimurium*.
225. ENTNER, N., and ENGELBERG, E. An effect of glucose on bacteriophage synthesis in *Salmonella typhimurium*. *Nature, Lond.*, 1958, 182: 1808-1809.
226. FREDERICQ, P. Transduction por bacteriophage des propriétés colicinogènes chez *Salmonella typhimurium*. *C. rend. Soc. biol.*, 1959, 153: 357-360. Colicinogenetic activity maintained after transduction.
227. FUKASAWA, T. and NIKAIKO, H. Galactose-sensitive mutants of *salmonella S. enteritidis* used in experiments. *Nature, Lond.*, 1959, 184: 1168-1169.
228. FUKASAWA, T., and NIKAIKO, H. Formation of "protoplasts" in mutant strains of *salmonella* induced by galactose. *Nature, Lond.*, 1959, 183: 1131-1132.
229. FULTON, M. Preservation of multivalent *salmonella* phage with chloroform. *Am. J. Clin. Path.*, 1955, 25: 1229-1230.
230. GAEBLER, O. H., ed. Henry Ford Hospital International symposium: Enzymes, units of biological structure and function. New York, Academic Press, 1956. 624 p. Phage vectored transduction in *salmonella*, p. 131-134; flagellar genes of *salmonella*, p. 168.
231. GAREN, A., and ZINDER, N. D. Radiochemical evidence for partial genetic homology between bacteriophage and host bacteria. *Virology*, 1955, 1: 347-376. 38 references. "The lytic and lysogenizing activities of a temperate bacteriophage of *S. typhimurium* ( $P_{22}$ ) is inactivated by ultraviolet radiation."
232. GASTALDI, C. Indagini sulla capacità ossidativa di alcune varianti di *S. anatum* e di *S. newington* mediante il metodo monometrico di Warburg. *Boll. Ist. sieroter. milan.*, 1955, 34: 425-440. 19 references. Different enzymatic systems cause differing activity in each variant.
233. GOLUB, E. G., and GOTS, J. S. Purine metabolism in bacteria. VI. Accumulations by mutants lacking adenylosuccinase. *J. Bact., Balt.*, 1959, 78: 320-325. 20 references. 9 mutants of *E. coli* and *S. typhimurium* tested.
234. GOWEN, J. W. Genetic effects in non-specific resistance to infectious disease. *Bact. Rev., Balt.*, 1960, 24: 192-200. *Salmonella typhimurium* infection in mouse.
235. HOWARTH, S. Suppressor mutations in cystine-requiring mutants of *Salmonella typhimurium*. *Genetics*, 1958, 43: 404-418. 17 references. 8 suppressors isolated separately from the mutants: 5 are nonspecific.
236. HUDEMANN, H. Zur Bedeutung von Typhus-Vi- und *Salmonella*-Phagen in Lebensmitteln. *Arch. Hyg. München.*, 1959, 143: 495-500.
237. JENKIN, C. R., PALMER, D., and BENACERROF, B. In vitro studies of interaction between mouse peritoneal macrophages and strains of *salmonella* and *E. coli*. *Fed. Proc., Balt.*, 1960, 19 (1, pt. 1) : 244.
238. KALLINGS, L. D., LAURELL, A. B., and ZETTERBERG, G. An outbreak due to *Salmonella typhimurium* in veal with special reference to phage and fermentation typing. *Acta path. microb. scand.*, 1959, 45: 347-356. 13 references. 97% were of phage type 6.

239. KERRIDGE, D. Synthesis of flagella by amino acid-requiring mutants of *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1959, 21: 168-179. 18 references.
240. KIESEWALTER, J. Untersuchungen über die Verwendbarkeit des 0-1 Phagentestes zur *Salmonella*-Diagnose. *J. Hyg. Epidem., Praha*, 1958, 2: 190-195.
241. KRISTENSEN, M. Mutative bacterial fermentation. *Acta path. microb. scand.*, 1955, 36: 576-580. *S. typhi* and *S. paratyphi* included in the 19 types studied.
242. LARK, K. C., MAALØE, O., and ROSTOCK, O. Cytological studies of nuclear division in *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1955, 13: 318-326.
243. LEDERBERG, J., and INO, T. Phase variation in salmonella. *Genetics*, 1956, 41: 743-757. 35 references. Transduction in *S. typhimurium*, *S. abony* and *S. heidelberg*.
244. LEDERBERG, J. Recombination mechanism in bacteria. *J. Cellul. Physiol.*, 1955, 45, Suppl. 2: 75-107. Single cell pedigrees and transduction in salmonella, p. 92-95. *Salmonella* briefly mentioned on pp. 77, 79, 83, 84, 85.
245. LEDERBERG, J., and STOCKER, B. "Phenotypic" transductions of motility in salmonella. *Genetics*, 1955, 40: 581. Abst.
246. LEVINE, M. Mutations in the temperate phage P<sub>22</sub> and lysogeny in salmonella. *Virol.*, 1957, 3: 22-41.
247. LEVINE, M. The production of lysogeny for virulent bacteriophage by mixed infection. *Genetics*, 1955, 40: 582. Abst.
248. LONDON, S. A. A study of bacteriophage VIII-113 specific for flagellated salmonellae. Newark, 1958. (Dissertation, University of Delaware.) Abst. in: *Dissertation Abstracts*, 1958, 19: 935-936.
249. MATNEY, T. S., SHANKEL, D. M., and WYSS, O. Delayed appearance of induced bacterial mutants. *J. Bact., Balt.*, 1959, 78: 378-383. 5 references. *Salmonella typhimurium* and *Escherichia coli* mutants.
250. MIYAKE, T. Fertility factor in *Salmonella typhimurium*. *Nature, Lond.*, 1959, 184: 657-658. Genetic study, Cold Spring Harbor, N.Y.
251. MORSE, M. L. Transduction and transformation. *Ann. N. York Acad. Sc.*, 1957, 68: 324-334. 21 references. Review of literature. Transduction first observed in salmonella in 1952.
252. NICOLLE, P. Les bactériophages et la lysotypie. *Rev. fr. clin. biol.*, 1957, 9: 929-961. 103 references. Lysotypes of: *Salmonella typhi*, p. 935-939; *Salmonella paratyphi B*, p. 939-941; *Salmonella typhimurium* p. 941-942.
253. OZEKI, H. Chromosome fragments participating in transduction in *Salmonella typhimurium*. *Genetics*, 1959, 44, pt. 2: 457-470. 20 references. "—complete transduction is the consequence of crossing over between the chromosome of the recipient and a transduced fragment of donor chromosome of uniform composition—"
254. PENSO, G., and ORTALI, V. Contrôle des produits thérapeutiques à base de phages. *Int. Congr. Biol. Stand.*, Brussels, 24-30 July 1958, p. 129-138. Discussion, p. 139-142. *Salmonella* phage control.
255. PERDRIX, J., PLANCHON, M., and LE MINOR, L. Une variante agazogene de *S. dublin* dans un troupeau bovin. *Rec. méd. vét., École d'Alfort*, 1958, 134: 93-96.
256. PICKETT, M. J., and LAUGHNER, S. M. Screening for salmonella with bacteriophage. *Am. J. Clin. Path.*, 1960, 33: 298-302. 10 references. "O-I" and "Group D" used for a rapid procedure.
257. QUADLING, C. The unilinear transmission of motility and its material basis in salmonella. *J. Gen. Microb., Lond.*, 1958, 18: 227-237. 13 references. M.C. (motion producing particles) provide evidence of non-genetic heterogeneity.
258. RAVIN, A. W. Bacterial genetics. *Ann. Rev. Microb.*, 1958, 12: 309-364. 237 references. A definitive review; salmonellae considered under the headings: Mutation, p. 310, 311; Replication, p. 324; Transduction, p. 335, 336; Lysogenic conversion, p. 338, 339; Gene control of protein specificity, p. 351, 353.
259. SAPHRA, I., CURBELO, A., and MARQUEZ, V. Consideraciones sobre genética en salmonella; con motivo del segundo aislamiento de *S. albany*. *Arch. Hosp. Univ. Habana*, 1957, 9: 152-157.
260. SCHNEIDER, H. A. Nutritional and genetic factors in the natural resistance of mice to salmonella infections. *Ann. N. York Acad. Sc.*, 1956, 66: 337-347. 7 references. A nutritional resistance factor important for survival.
261. SCHOLTENS, R. T. Comparison of the Felix and Callow system of phage typing of *Salmonella paratyphi B* with the natural system used in the Netherlands. Results of members of the first subcommittee on paratyphi B of I.C.E.P.T. *Antonie van Leeuwenhoek, Amst.*, 1959, 25: 403-421. 21 references.
262. SCHOLTENS, R. T. Characterization and grouping of phage types *Salmonella paratyphi B*, especially of a new type "sittard", by sensitivity to type phages and by lysogenic properties. *J. Hyg., Lond.*, 1955, 53: 1-11. 17 references.

263. STADLER, J., and GOWEN, J. W. Radio logical effects on resistance mechanisms of genetically differentiated strains of mice exposed to *Salmonella typhimurium*. *J. Infect. Dis.*, 1957, 100: 284-299.
264. STARLINGER, P. Über einen Defekt des transduzierenden *Salmonella*-Phagen P<sub>22</sub>. *Zschr. Naturforsch.*, 1958, 133: 489-493. 18 references.
265. STELLMACHER, W. Bakteriophagen-Studien. II Einfluss von Phagen auf das *Salmonella*-Wachstum. *Msh. Vetmed.*, 1959, 14: 18-24.
266. STOCKER, B. A. D. Bacterial genetics and infectious disease. *Am. J. Human Genet.*, 1959, 11: 354-365.
267. STOCKER, B. A. D. Lysogenic conversion by the A phages of *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1958, 18: ix.
268. STOCKER, B. A. D. Abortive transduction of motility in salmonella; a nonreplicated gene transmitted through many generations to a single descendant. *J. Gen. Microb., Lond.*, 1956, 15: 575-598. 17 references. Technic in detail.
269. TERADA, M., KONDO, I., KUROSAKA, K., and ENOMOTO, Y. Phage inactivating agent closely related with salmonella O (XII) antigen. *Jap. J. Microb.*, 1959, 3: 145-157. 11 references.
270. THAL, E., and KALLINGS, L. O. Zur Bestimmung des Genus *Salmonella* mit Hilfe eines Bakteriophagen. *Nord. vet. med.*, 1955, 7: 1063-1071.
271. UETAKE, H., and UCHIDA, T. Mutants of salmonella phage E<sup>16</sup> with abnormal conversion properties. *Virology*, 1959, 9: 495-505. 16 references. 3 different phages isolated.
272. VADÁSZ, J., and JUHÁSZ, I. Plasma globules of *Salmonella enteritidis* arising under the influence of penicillin and their reversion to the original bacillary forms. *Nature, Lond.*, 1955, 176: 168-169. Changes recorded microcinematographically.
273. VELAUDAPILLAI, T. Serological grouping and thermal death points of *S. virchow* bacteriophages. *Zschr. Hyg.*, 1959, 146: 176-184. 13 references. 34 strains yielded phages in one serological group; 6 to 2 groups; 8 to 3 groups.
274. WASSERMAN, M. W., and SAPHRA, I. The use of bacteriophages in typing salmonella cultures. *J. Bact., Balt.*, 1955, 69: 97-100.
275. WATANABE, T., and WATANABE, M. Transduction of streptomycin resistance in *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1959, 21: 16-29. 28 references. "Streptomycin indifference can be transduced \*\*\*"
276. WATANABE, T., and WATANABE, M. Transduction of streptomycin sensitivity into resistant mutants of *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1959, 21: 30-39.
277. WINKLER, U. Qualitative und quantitative Experiments über Transduktion mit neu isolierten *Salmonella*-Phagen. *Arch. Mikrob., Berl.*, 1959, 32: 161-186. 33 references.
278. ZINDER, N. D. Bacterial transduction. *J. Cellul. Physiol.*, 1955, 45, suppl. 2: 23-49. 19 references. *Salmonella typhimurium* experiments.

## D. Antigens

279. ABERNATHY, R. S., and SPINK, W. W. Protection against brucella with heterologous endotoxins. *J. Clin. Invest.*, 1956, 35: 687. *Salmonella* endotoxin gives heterologous protection against brucella.
280. AKSOYCAN, N., and KAUFFMANN, F. Antigenic relationships between salmonella O group C 1 and *Candida albicans*. *Acta path. microb. scand.*, 1957, 40: 345-346.
281. BAKER, E. E., and WHITESIDE, E. Serologic studies of *Salmonella typhosa*, 207. Ty 2 antigens tested with *S. schottmüller* serum (XII antibody), *S. haarlem* serum (IX antibody). *Fed. Proc., Balt.*, 1960, 19 (1, pt. 1): 207.
282. BARBESIER, J. Sur une variété de *Salmonella pullorum*. *Arch. Inst. Pasteur Algérie*, 1957, 35: 382-390.
283. BARON, L. S., FORMAL, S. B., and WASHINGTON, O. Somatic antigen addition in salmonella by bacteriophage. *Virology*, 1957, 3: 417-425.
284. BO, G., and NAVA, G. C. Sulla composizione chimica degli antigeni delle Salmonelle. VI. Tentativi di frazionamento dell'antigene somatico della *Salmonella newington* nei suoi due fattori antigenici. *Boll. Ist. sieroter, milan.*, 1959, 38: 21-28.
285. BO, G., and NAVA, G. C. Composizione chimica dell'antigene O delle Salmonelle adelaide, inverness, rio grande, weslaco. *Boll. Ist. sieroter, milan.*, 1957, 36: 556-563. 12 references. Carbohydrate factors differed but protein factors did not.
286. BRUNER, D. W. The preparation and use of polyvalent salmonella antiserum. *Cor nell Vet.*, 1957, 47: 491-497.
287. CAREY, W. F., and BARON, L. S. Comparative immunologic studies of cell structures isolated from *Salmonella typhosa*. *J. Immun.*, 1959, 83: 517-520. 14 references. The lipopolysaccharide endotoxin is primarily located in the cell wall.

288. CASTERMANS, A. Activités antigéniques des salmonelles lysées par les actinomycètes ou l'actinomycétine. *Rev. belge path.*, 1956, 25: 5-46. 73 references. Comparison of bacteriolysis in *S. typhimurium* and *S. typhosa*.
289. COLLARD, P., SEN, R., and MONTEFIORE, D. The distribution of salmonella agglutinins in sera of healthy adults at Ibadan. *J. Hyg., Lond.*, 1959, 57: 427-434. 20 references. Isolation of salmonellae from clinical cases and carriers.
290. COMPAGNUCCI, M., FERLAZZO, A., and FRANCESCONI, G. Ricerche sui tranquillanti. I. Influenza del meprobamato sulla produzione delle agglutinine anti *S. typhimurium*. *Boll. Soc. ital. biol. sper.*, 1959, 35: 313-315.
291. COSTA, G. A., and VILLELA, G. G. Oxidation of L-glutamic acid in relation to antigenic composition of *Salmonella typhi*. *Proc. Soc. Exp. Biol., N.Y.*, 1959, 100: 714-716. V and W variants of *S. typhi* are related to enzymatic activity.
292. D'ALLESANDRO, G., and COMES, R. Il potere immunizzante degli antigeni O, H, Vi della *S. typhi* e dell'antigene H della *S. minnesota* studiato attraverso il saggio batteriomico nel topolino. *Riv. Ist. sieroter. ital.*, 1957, 34: 330-342. 19 references.
293. DAVARPAHANAH, C., and STAUB, A. M. Etude immunochimique sur les salmonelles. III. Hémagglutinines et précipitines de quelques sérum anti-S. gallinarum et anti-S. typhi. *Ann. Inst. Pasteur, Par.*, 1956, 91: 564-573. Sheep erythrocytes sensitized by 4 salmonella polysaccharides.
294. DEFRENESCHI, A., BO, G., and NAVA, G. C. Sulla composizione chimica degli antigeni delle salmonelle. I. Composizione chimica dell'antigene O delle Salmonelle cerro e senegal. *Boll. Ist. sieroter. milan.*, 1955, 34: 703-711. 12 references.
295. DE GREGORIO, P., and FORTE, A. Sulla costituzione antigenica delle forme L. *Boll. Ist. sieroter. milan.*, 1958, 37: 131-134. Anti-L forms agglutinins in rabbits after inoculating with *S. hvidtingfoos* L-forms.
296. DE GREGORIO, P. Fissazione di antigeni sulla superficie cellulare. *Boll. Ist. sieroter. milan.*, 1955, 34: 118-122. Antigen O of *S. typhosa* and antigen Vi of *S. ballerup* used in tests.
297. EDSALL, G., CARLSON, M. C., FORMAL, S. B., and BENENSON, A. S. Laboratory tests of typhoid vaccines. *Bull. World Health Org.*, 1959, 20: 1017-1032. Studies in Yugoslavia and Croatia.
298. EDWARDS, P. R., and FIFE, M. A. Occurrence of induced antigens in salmonellae isolated from man. *J. Bact., Balt.*, 1957, 74: 108.
299. EDWARDS, P. R., DAVIS, B. R., and CHERRY, W. B. Transfer of antigens by phage lysates with particular reference to the L, W antigens of *salmonella*. *J. Bact., Balt.*, 1955, 70: 279-284. 9 references.
300. FARI, A. Contribution à l'étude de l'action des antibiotiques sur l'immunité. *Ann. Inst. Pasteur, Par.*, 1959, Suppl. 5. 87 p. 392 references. Antibiothérapie et immunité acquise, p. 57-60. Vaccination spécifiques et antibiothérapie, p. 61-70.
301. FERLAZZO, A., ALOSI, C., and LOMBARDO, G. Ricerche sui tranquillanti. II. Comportamento delle proteine seriche in conigli trattati con meprobamato e immunizzati con vaccino *S. typhimurium*. *Boll. Soc. ital. biol. sper.*, 1959, 35: 315-318.
302. FICHERA, G. Azione immunizzante della endotossina glucidolipidica della *S. typhimurium* nell'infezione omologa sperimentale per os del topolino. *Riv. Ist. sieroter. ital.*, 1958, 33: 360-368.
303. FLAMM, H., and KUNZ, C. Aufspaltbarkeit des *Salmonella*-Antigen. VII. *Zbl. Bakt. I. Abt. Orig.*, 1956, 166: 424. The complex nature of antigen VII demonstrated.
304. FODER, A. R. Antigenic heterogeneity in bacteriophage. *J. Immun.*, 1957, 79: 227-233. *Salmonella* phage PB has multiple antigenicity.
305. FURNESS, G., and FERREIRA, I. The role of macrophages in natural immunity to salmonellae. *J. Infect. Dis.*, 1959, 104: 203-206.
306. FLUORESCENT ANTIBODY METHODS. *Laborat. Digest*, 1960, 23: 13-14. Abstract of a pamphlet distributed by Scientific Products Division of the American Hospital Supply Corporation, 1210 Leon Place, Evanston, Ill.
307. GELZER, J., and SUTER, E. The effect of antibody on intracellular parasitism of *Salmonella typhimurium* in mononuclear phagocytes in vitro; prolonged survival of infected monocytes in presence of antibody. *J. Expt. Med.*, 1959, 110: 715-729. 41 references.
308. GORSHINA, L. V. Experimental study of the composition of the Vi antigens of the *Escherichia coli* and strains of *Salmonella typhosa* by the method of gel diffusion. *J. Microb. Epidem. Immun.*, 1959, 30: 96-101.
309. GWATKIN, R., and GRINEWITSCH, C. Salmonellosis. III. Blood cultures and agglutination tests on chickens infected by mouth with *Salmonella typhimurium*. *Canad. J. Comp. M.*, 1955, 19: 174-176.
310. HALLIDAY, R. The production of antibodies by young rats. *Proc. R. Soc., Ser. B., Biol. Sc.*, 1957, 147: 926. *S. pullorum* used in tests.

311. HARADA, K. Studies on directed variation of *Salmonella* O-34 by bacteriophage. I. Antigenic transformation by bacterial autolysate and antiserum. *Jap. J. Microb.*, 1959, 3: 53-60. 18 references. 3 kinds of antigenic transformation occurred in the strains of subgroups E<sub>1</sub> and E<sub>2</sub> due to the autolysate of *S. newington*.
312. HARADA, K. Studies on directed variation of *Salmonella* O-34 by bacteriophage. 2. Antigen-transforming agent in bacteria of group E<sub>3</sub>. *Jap. J. Microb.*, 1959, 3: 61-69. 16 references. Tests disclosed the phage itself is the transforming agent.
313. HARRIS, M. E., and WILLIAMS, J. E. The hemagglutinating properties of *Salmonella* typhimurium. *Am. J. Vet. M.*, 1957, 18: 432-436.
314. HUGHES, M. H. Enteric fevers and normal agglutinins in the Gold Coast. *J. Hyg., Lond.*, 1955, 53: 368-378.
315. ISEKI, S., OMUKI, E., and KASHIWAGI, K. Relationship between somatic antigen and blood group substance especially B substance of bacterium. *Gunma J. M. Sc.*, 1958, 7(1): 7-12. *E. coli*, Arizona and *S. milwaukee* have a common antigen to which A and B blood group substances are probably related.
316. KAMPELMACHER, E. H. On antigenic O-relationships between the groups *Salmonella arizona*, *escherichia* and *shigella*. *Antonie van Leeuwenhoek, Amst.*, 1959, 25: 289-324. 9 tables. Cross agglutination studies and absorption tests determined relationship.
317. \*KATSUNO, M., and FUJITA, J. Studies on the pullorum disease. On the fluctuation of agglutinin titre of the fowl. *Tohoku J. Agr. Res.*, 1957, 7: 257-272
318. \*KATSUNO, M., and FUJITA, J. Studies on the pullorum disease. *Tohoku J. Agr. Res.*, 1956, 6: 31-34.
319. KNAPP, W. Die diagnostische Bedeutung der antigenen Bezeichnungen zwischen Past. pseudotuberculosis und der Salmonella-Gruppe. *Zbl. Bakt. I. Abt. Orig.*, 1955, 164: 57-59.
320. KOHLER, H., and MASSIMANN, W. Zur Differenzierung der Salmonellenantigene. *Schweiz. Zschr. allg. Path.*, 1955, 18: 996-1000.
321. KOLMAR, D. Untersuchungen über die negative Phase bei protraheirter Antigenzuführ durch Adsorbatvaccine an Salmonellen-infizierten Mäusen. *Zbl. Bakt. I. Abt. Orig.*, 1956, 165: 530-549. Mouse tests disclosed a negative phase in the course of immunization against *S. typhimurium*.
322. LANDY, M., GAINES, S., and SPRING, H. Studies on intracerebral typhoid infection in mice. I. Characteristics of the infection. *Brit. J. Exp. Path.*, 1957, 38: 15-24.
323. LANDY, M., GAINES, S., and SPRING, H. Studies on intracerebral typhoid infection in mice. II. Immunological factors concerned in protection. *Brit. J. Exp. Path.*, 1957, 38: 25-34.
324. LANDY, M., and JOHNSON, A. G. Studies on the O antigen of *Salmonella typhosa*. IV. Endotoxic properties of the purified antigen. *Proc. Soc. Exp. Biol., N.Y.*, 1955, 90: 57-62.
325. LIEBERMAN, R., EARLE, H., IKARI, N., and McCULLOUGH, N. B. Immunity afforded by specifically absorbed, unabsorbed and combinations of salmonella antisera. *J. Immun.*, 1959, 82: 52-61. Experiments with *S. typhimurium* and *S. enteritidis*.
326. LIPP, R. Über den Nachweis der Wirkung von Typhus-Impfstoffen und-Sera durch Blutkultur im Mäuserversuch. *Zschr. Immunforsch.*, 1957, 114: 235-243. 12 references.
327. LODDO, B. Ricerche sulle correlazioni antropozoonotiche nelle salmonellosi. *Riv. Ital. igiene.*, 1957, 17: 338-347. 472 goats, 142 sheep, and 12 oxen tested; agglutinins against salmonella present in all.
328. MASON, R. J. A. Effect of anticomplement on resistance of mice to infection with *Salmonella typhimurium*. Ames, 1958. (Dissertation, State University of Iowa) Abst. in: *Dissertation Abstracts*, 1959, 19: 1520.
329. MITSUHASHI, S., KAWAKAMI, Y., YAMAGUCHI, Y., and NAGAI, M. A comparative study of living and killed vaccines against the infection of mice with *S. enteritidis*. *Jap. J. Exp. M.*, 1958, 28: 249-258. 22 references.
330. NAVA, G. C., and BO, G. Sulla composizione chimica degli antigeni delle salmonelle. V. Composizione chimica degli antigeni somatici dell' *Salmonelle aberdeen*, *luciana*, *veneziana*, *gaminara* e *memphis*. *Riv. Ital. igiene.*, 1958, 18: 200-208.
331. NAVA, G. C., DEFRENTECHI, A., and BO, G. Sulla composizione chimica degli antigeni delle salmonella. IV. Composizione chimica dell' antigen O delle *Salmonelle adelaide*, *inverness*, *rio grande*, *weslaco*. *Nuovi ann. igiene microb.*, 1957, 8: 544.
332. NETER, E., DRISLANE, A. M., HARRIS, A. H., and GORZYNSKI, E. A. Study on antibodies against enteric pathogens in human gamma globulin. *Am. J. Pub. Health*, 1959, 49: 1050-1059. 29 references.
333. NETER, E., and DUNPHY, D. The duration of the hemagglutinin response in the serum of children with shigellosis and salmonellosis. *Pediatrics*, 1957, 20: 78-86. 13 references. 18 cases.

334. NETER, E., GORZYNSKI, E. A., GINO, R. M., WESTPHAL, O., and LÜDERITZ, O. The enterobacterial hemagglutination test and its diagnostic potentialities. *Canad. J. Microb.*, 1956, 2: 232-244. 27 references. *Salmonella* test in detail.
335. NETER, E., WESTPHAL, O., LÜDERITZ, O., and GORZYNSKI, E. A. The bacterial hemagglutination test for the demonstration of antibodies to enterobacteriaceae. *Ann. N. York Acad. Sc.*, 1956, 66: 141-156. *S. typhimurium* infection. Table 6, p. 153, lists specific reactions found in a family of eight.
336. NÉVOT, A. Le diagnostic bactériologique en pratique médicale. 2d ed. Paris, Masson, 1958. 477 p. Genre salmonella, p. 185-214. Antigènes des salmonelles: extrait d'un tableau de Kauffmann et White, table IV, p. 190-191. Préparation à un sérum mixte; O et H, p. 212-214.
337. NICOLLE, P., and DIVERNEAU, G. Sur une lysotypie complémentaire des bacilles typhiques Vi positifs non lysotypables par la méthode de Craigie et Felix. *C. rend. Acad. sc.*, 1959, 249: 1958-1970.
338. PETROSIAN, E. A., and ZVENICORODSKAIA, V. P. A study of the antigens of enteric organisms. I. Immunochemical study of the Vi antigen of typhoid bacilli. *J. Microb. Epidem. Immun.*, 1957, 28: 1167-1171.
339. RAETTIG, H. Provokation einer Infektion durch Schutzimpfung. II. Unspezifische Provokation während der experimentellen Epidemie *S. typhimurium*. *Zbl. Bakt. I. Abt. Orig.*, 1959, 175: 236-244. 9 references. Mice infected with *S. typhimurium* vaccinated with inactivated *S. enteritidis* showed an increased mortality.
340. RAETTIG, H. Provokation einer Infektion durch Schutzimpfung. III. Schutzimpfung in einem endemisch verseuchten Mäusevolk. *Zbl. Bakt. I. Abt. Orig.*, 1959, 175: 245-257.
341. RAETTIG, H. Provokation einer Infektion durch Schutzimpfung. IV. Provokation während der experimentellen *S. typhimurium* Epidemie nach vorangegangener Immunisierung. *Zbl. Bakt. I. Abt. Orig.*, 1959, 175: 618-631.
342. RIBI, E., HOYER, B. H., MILNER, K. C., PERRINE, T. D., LARSON, C. L., and GOODE, G. Physical and chemical analysis of endotoxin from *Salmonella enteritidis*. *J. Immun.*, 1960, 84: 32-47. 33 references. Studies demonstrate the complex behavior of endotoxin in solution.
343. RIBI, E., MILNER, K. C., and PERRINE, T. D. Endotoxic and antigenic fractions from the cell wall of *Salmonella enteritidis*. Methods for separation and some biologic activities. *J. Immun.*, 1959, 82: 75-84. 29 references.
344. ROHDE, R. Neue serologische Untersuchungen über die Problematik der *Salmonella*-H-Antigene i; r und r (i). *Zbl. Bakt. I. Abt. Orig.*, 1959, 174: 315-326. H-antigen r (i) of *S. altona* is an independent antigen.
345. ROHDE, R., and TIEDJE, E. Vergleichende serologische Studien über das H-Antigen r (i) in Verbindung mit *S. altona* = (8), 20: r (i) z 6, einem neuen Salmonellatyp der somatischen C 3-Gruppe. *Zbl. Bakt. I. Abt. Orig.*, 1958, 171: 286-292.
346. ROWLEY, D. Antibacterial systems of serum in relation to nonspecific immunity to infection. *Bact. Rev., Balt.*, 1960, 24: 106-114. 24 references. Mice are susceptible to *S. typhimurium* and immune to *S. gallinarum* and *S. schottmüller*; chickens are susceptible to *S. gallinarum* and resistant to others.
347. SACQUET, E. Valeur de la séro-agglutination dans le diagnostic des salmonelloses du rat et de la souris. *Rev. fr. clin. biol.*, 1959, 4: 930-932. Positive O and H agglutination indicate rat and mouse carriers.
348. SALMON, J. Constitution antigénique des lysats de *Salmonella schottmüller*. *Rev. belge path.*, 1957, 26: 191-211. No antigen common to all lysates, and no lysate contains all antigens.
349. SCHUBERT, J. H., EDWARDS, P. R., and RAMSEY, C. H. Detection of typhoid carriers by agglutination tests. *J. Bact., Balt.*, 1957, 77: 648-654. 16 references. 200 apparently normal persons and 180 carriers test for O, H, and Vi agglutinins.
350. SHIRLAW, J. F. Observations on calf disease in Kenya. I. Disease in calves due to *Salm. dublin*; the problem of immunity. *Brit. Vet. J.*, 1959, 115: 201-213. Main cause of high calf mortality is *Salm. dublin*. Preparation and use of vaccine.
351. SIEBURTH, J. M. The indirect hemagglutination test in the avian salmonella problem. *Am. J. Vet. Res.*, 1958, 19: 729-735. 18 references. Comparison of agglutinins with indirect hemagglutinins.
352. SILLIKER, J. H., and TAYLOR, W. I. The relationship between bacteriophages of salmonellae and their O antigens. *J. Laborat. Clin. M.*, 1957, 49: 460-464. 11 references.
353. SMITH, H. W. The immunity to *Salmonella* gallinarum infection in chickens produced by live cultures of members of the *Salmonella* genus. *J. Hyg., Lond.*, 1956, 51: 419-432. Varying degrees of immunity produced by the several types.
354. SPICER, C. C., and DATTA, N. Reversion of transduced antigenic characters in *Salmonella typhimurium*. *J. Gen. Microb., Lond.*, 1959, 20: 136-143. H antigen altered by transduction with a bacteriophage lysate of *S. abony*.

355. STADLER, J., and GOWEN, J. W. Radiation effects on active acquired immunity to *Salmonella typhimurium* in mice. *J. Infect. Dis.*, 1957, 100: 300-310.
356. STAUB, A. M., TINELLI, R., LÜDERITZ, O., and WESTPHAL, O. Étude immunochimique sur les *Salmonella*. V. Rôle de quelques sucres, et en particulier des 3-6 didésoxyhexoses, dans la spécificité des antigènes O du tableau de Kauffmann-White. *Ann. Inst. Pasteur, Par.*, 1959, 96: 303-332. 43 references.
357. STAUB, A. M., and TINELLI, R. Étude immunochimique sur les salmonelles. IV. Structure chimique de certains motifs antigéniques présents dans les antigènes O<sub>9</sub> et O<sub>12</sub> du tableau White-Kauffmann. *Bull. Soc. chim. biol., Par.*, 1957, 39, suppl. 1: 65-83. Tests with polysaccharide have shown that the action of tyvelose is important in the precipitation of antibodies.
358. STAUB, A. M., and DAVARPAHNAH, C. Étude immunochimique sur les salmonelles. II. Analyse des précipitines de quelques sérum anti-S. gallinarum et anti-S. typhi. *Ann. Inst. Pasteur, Par.*, 1956, 91: 338-354. 27 references. Two sera having the same O agglutinin titer may contain antibodies differing qualitatively, quantitatively, and specifically.
359. STELLMACHER, W. Ein Beitrag zur Diagnostik unbeweglicher Kulturen mit IX-Antigen der *Salmonella*-Gruppe. *Msh. Vet-med.*, 1957, 12: 15-16. S. dublin differentiated from the pullorum-gallinarum group by biochemical reactions.
360. TOBA, A. Studies on the mechanism of immunity in experimental salmonellosis. IV. Fate of virulent smooth organisms injected into animals immunized with living organisms R (Ø), killed organisms S. and O antigen. *Yokohama M. Bull.*, 1955, 6: 35-41.
361. TOLNAI, G. Investigations into the antigenic composition of the *Salmonella* group. *Acta microb. hung.*, 1957, 4: 217-226.
362. TORLONE, V. Emoagglutinazione condizionata e prova antiglobulinica per la ricerca di anticorpi completi e incompleti nella infezione da *S. pullorum*. *Sperimentale*, 1958, 108: 315-327.
363. UETAKE, H., LURIA, S. E., and BURROUS, J. W. Conversion of somatic antigens in salmonella by phage infection leading to lysis or lysogeny. *Virology*, 1958, 5: 68-91. 44 references.
364. UETAKE, H., NAKAGAWA, T., and AKIBA, T. The relationship of bacteriophage to antigenic changes in group E salmonellas. *J. Bact., Balt.*, 1955, 69: 571-579. 21 references. 26 type of salmonella studied.
365. USHIBA, D., SAITO, K., AKIYAMA, T., NAKANO, M., SUGIYAMA, T., and SHIRONO, S. Studies on experimental typhoid; bacterial multiplication and host cell response after infection with *Salmonella enteritidis* in mice immunized with live and killed vaccines. *Jap. J. Microb.*, 1959, 3: 231-242.
366. WEIL, A. J., and SAPHRA, I. Incidence of antibodies to salmonellae among the population of the Bronx, N.Y. *J. Immun.*, 1955, 74: 485-487. 10 references. Sera tested with 8 types of antigens.
367. ZINDER, N. D. Lysogenization and superinfection immunity in salmonella. *Virology*, 1958, 5: 291-326. 20 references. \*\*\* there is a correlation in amount of antigen, degree of impairment of phage adsorption, and completeness of superinfection immunity."
368. ZINDER, N. D. Lysogenic conversion in *Salmonella typhimurium*. *Science*, 1957, 126: 1237.

## II ANIMAL INFECTIONS

369. ALIN, K. *Salmonella* in tortoises. *Acta path. microb. scand.*, 1956, 38: 71-72.
370. ANDERSON, A. S., BAUER, H., and NELSON, C. B. Salmonellosis due to *Salmonella typhimurium* with Easter chicks as likely source. *J. Am. M. Ass.*, 1955, 158: 1153-1155.
371. BIOZZI, G., BENACERROF, B., and HOLPERN, B. N. The effect of *Salm. typhi* and its endotoxin on the phagocytic activity of the reticulo-endothelial system in mice. *Brit. J. Exp. Path.*, 1955, 36: 226-235. 12 references.
372. BLAXLAND, J. D., SOJKA, W. J., and SMITH, A. M. Avian salmonellosis in England and Wales 1948-1956, with comment on its prevention and control. *Vet. Rec., Lond.*, 1958, 70: 374-382. 43 references.
373. BÖVRE, K., and SANDU, P. *Salmonella*-excreting tortoises in Oslo. *Acta path. microb. scand.*, 1959, 46: 339-342. 10 references.
374. BOWEN, S. T., GOWEN, J. W., and TAUBER, O. E. Cortisone and mortality in mouse typhoid. I. Effect of hormone dosage and time of injection. *Proc. Soc. Exp. Biol., N.Y.*, 1957, 94: 476-479.

375. BOWEN, S. T., GOWEN, J. W., and TAUBER, O. E. Cortisone and mortality in mouse typhoid. II. Effect of environmental temperature. *Proc. Soc. Exp. Biol., N.Y.*, 1957, 94: 479-482.
376. \*BOYER, C. I., JR., BRUNER, D. W., and BROWN, J. A. Salmonella organisms isolated from poultry feed. *Avian Dis.*, 1958, 2: 396-401.
377. BOYER, C. I., JR., and CHABBERT, Y. Étude comparée de l'action du chloramphénicol et de l'association penicilline-streptomycine sur l'infection expérimentale de la souris avec *S. enteritidis* var. *dansyz*. *Ann. Inst. Pasteur, Par.*, 1955, 89: 246-249. 16 references.
378. BRICENO IRAGORRY, L., UGUETO, C., and DELGADO, V. Las ratas como portadoras de salmonellas. *Gac. méd. Caracas*, 1955, 63: 33-35.
379. BROBST, D., GREENBERG, J., and GEZON, H. M. Salmonellosis in poultry and poultry processing plants in western Pennsylvania. *J. Am. Vet. M. Ass.*, 1958, 133: 435-437.
380. BROWN, C. M., and PARKER, M. T. Salmonella infections in rodents in Manchester with special reference to *Salmonella enteritidis* var *dansyz*. *Lancet*, 1957, 2: 1277-1279.
381. \*BRUNNER, L. Chemoprophylaxe bei Nahrungsmittelvergiftungen im besonderen verursacht durch *Salmonella bareilly*. Berlin, 1956. (Inaugural Dissertation, Freien Universität) 30 p. 39 references. Effect of antibiotics on endotoxin in mice.
382. \*BUXTON, A. Salmonellosis in animals. A review. Farmham Royal, Bucks England, Commonwealth Agricultural Bureaux, 1957. 209 p.
383. CALLAHAN, W. S. Effect of bacterial endotoxin on carbohydrate metabolism of animals. *J. Bact., Balt.*, 1959, 77: 811. Endotoxin of *S. typhimurium*.
384. CAMERON, J. A. A study of *Salmonella pullorum* and *pullorum* disease in the chick, employing infrared spectroscopy. Knoxville, 1958. (Dissertation, University of Tennessee) Abst. in: *Dissertation Abstracts*, 1959, 19: 1894.
385. CARAWAY, C. T., SCOTT, A. E., ROBERTS, N. C., and HAUSER, G. H. Salmonellosis in sentry dogs. *J. Am. Vet. M. Ass.*, 1959, 135: 599-602.
386. CHEDID, L., and BOYER, F. Hypercorticisme gravidique et résistance aux salmonelloses expérimentales. *Ann. endocr., Par.*, 1955, 16: 467-476.
387. CLARENBURG, A., KAMPELMACHER, E. H., and LOK, B. Infection in pigs with a rare strain of *S. cholerae suis*. *Antonie van Leeuwenhoek, Amst.*, 1956, 22: 261-264. 5 cases of secondary infection found in a herd of pigs slaughtered because of swine plague.
388. CLEMMER, D. I. Experimental airborne salmonella infections of chicks. New Orleans, 1958. (Dissertation, Tulane University) Abst. in: *Dissertation Abstracts*, 1959, 19: 1894-1895.
389. COLLARD, P., and SEN, R. II. Isolation of salmonellae from fowls in Ibadan. *West Afr. M. J.*, 1957, 6: 15-17.
390. COLLARD, P., and SEN, R. III. Isolation of salmonella from healthy pigs in Ibadan. *West Afr. M. J.*, 1957, 6: 64-67.
391. COLLARD, P., and SEN, R. I. Isolation of salmonellae from cattle in Ibadan. *West Afr. M. J.*, 1956, 5: 118-120. Carrier rate in zebu cattle, 5.5%.
392. CROWTHER, R. W. Salmonella infection in sheep in Cyprus. *Vet. Rec., Lond.*, 1957, 69: 695-697. 5 outbreaks involving 10 flocks: etiological agent, *S. typhimurium*.
393. DOOLEY, E. S., and HOLTMAN, D. F. Effect of the administration of cortisone on the response of chicks to the endotoxin of *Salmonella pullorum*. *J. Bact., Balt.*, 1959, 78: 562-566.
394. DOOLEY, E. S., HOLTMAN, D. F., and JEFFRIES, C. D. Alterations in the blood chemistry of chicks treated with the endotoxin of *Salmonella pullorum*. *J. Bact., Balt.*, 1958, 75: 719-723.
395. FISHMAN, M., and SILVERMAN, M. S. Bacterial activity of rat leucocytic extracts. I. Antibacterial spectrum and the subcellular localization of the bactericidal activity. *J. Exp. M.*, 1957, 105: 521-528. *Salmonella enteritidis* among bacteria tested.
396. FROEHNER, H., and GRÜTTNER, F. Salmonellenbekämpfung in veterinärmedizinischer Sicht. *Off. Gesundhdienst*, 1958, 20: 12-22. Survey of measures to fight salmonellosis in animals.
397. FULTON, M., BLADEL, B., and LESKO, M. Salmonella in dogs and cats of a medical school animal colony. *Cornell Vet.*, 1956, 46: 245-248. 15 different strains including *S. infantis*.
398. FURNESS, G., and AXELROD, A. E. The natural resistance to *Salmonella typhimurium* of the normal mouse, rat and pyridoxine-deficient rat. *J. Immun.*, 1959, 83: 627-631. 29 references.

399. GALTON, M. M., MACKEL, D. C., LEWIS, A. L., HAIRE, W. C., and HARDY, A. V. Salmonellosis in poultry and poultry processing plants in Florida. *Am. J. Vet. Res.*, 1955, 16: 132-137. 24 types of salmonellae isolated.
400. GILFILLAN, R. F., HOLTMAN, D. F., and ROSS, R. T. Modification of pullorum disease in the chick by certain tricarboxylic acid cycle inhibitors and intermediates. *J. Bact., Balt.*, 1956, 72: 620-623.
401. GILFILLAN, R. F., HOLTMAN, D. F., and ROSS, R. T. Influence of *Salmonella* pullorum infection on various liver tricarboxylic acid enzymes and citrate levels in the chick. *J. Bact., Balt.*, 1956, 72: 624-627. 10 references.
402. GITTER, M. Isolation of *Salmonella cholerae suis* from postmortem specimens. *Vet. Rec., Lond.*, 1959, 71: 234.
403. GORDON, R. F., and TUCKER, J. F. The isolation of *Salmonella infantis* from a turkey poult. *Month. Bull. Min. Health Gr. Britain*, 1957, 16: 71-72. 70 of 180 hatched, died. *S. infantis* isolated from liver and intestines.
404. GROSZ, H. J., and NORTON, J. Effect of chlorpromazine on *Salmonella enteritidis* infection in mice. *Science*, 1959, 20: 784-785.
405. HAAS, R., and PETERSEN, K. F. Shigella- und *Salmonella*: Befunde bei Affen. *Med. Klin., Berl.*, 1959, 43: 1947-1949. 10 references. *Salmonella* newport, bovis morbificans and sentenberg.
406. HAUSER, K. W. Die Salmonelloses der Tauben. *Münch. tierärztl. Wschr.*, 1959, 72: 126-129.
407. HEATHER, C. D., and NOBLES, B. Aislamiento de salmonelas de los alimentos caninos. *Bol. Of. san. panamer., Wash.*, 1960, 48: 59-60. 15 strains.
408. HILL, C. H., and GARREN, H. W. Effect of dietary protein levels on susceptibility of chicks to fowl typhoid. *Fed. Proc.*, 1958, 17: 1880. Survival increased with increase of protein.
409. HOBSON, D. Chronic bacterial carriage in survivors of experimental mouse typhoid. *J. Bact. Path.*, 1957, 73: 399-410. 21 references.
410. HOBSON, D. The chemotherapy of experimental mouse typhoid with furazolidone. *Brit. J. Exp. Path.*, 1956, 37: 20-31.
411. HUDSON, C. B., and TUDOR, D. C. *Salmonella typhimurium* infection in feral birds. *Cornell Vet.*, 1957, 47: 394-395. Infected birds may spread infection to domestic animals and man.
412. HURST, H. L., and DOYLE, L. P. Studies on therapy of swine enteritis. I. The effect of SMP-1 on experimental salmonellosis. *J. Am. Vet. M. Ass.*, 1956, 129: 23-25. *S. cholerae suis* infection treated with a new drug which resembles chloramphenicol.
413. INNES, J. R. M., WILSON, C., and ROSS, M. A. Epizootic *Salmonella enteritidis* infection causing pulmonary phlebothrombosis in hamsters. *J. Infect. Dis.*, 1956, 98: 133-141.
414. JEFFRIES, C. D., HOLTMAN, D. F., and CAMERON, J. A. Susceptibility of certain strains of white leghorn chickens to *Salmonella pullorum*. *Am. J. Vet. Res.*, 1959, 20: 350-351.
415. JENKIN, C. R., and ROWLEY, D. Opsonins as determinants of survival in intraperitoneal infections of mice. *Nature, Lond.*, 1959, 184, suppl. 7: 474-475. *Salmonella typhimurium*.
416. KAUTER, E. Beobachtungen über die Salmonellaausscheidung in einem Rinderbestand. *Deut. tierärztl. Wschr.* 1958, 65: 567-569.
417. KAWAKAMI, Y., KAJI, T., SUGIMURA, K., SCHIMIZU, T., and MATUMOTO, M. A preliminary survey for equine abortion virus infection by complement fixation test in Hokkaido, Japan. *Jap. J. Exp. M.*, 1959, 29: 203-211. 12 references. 1953-1955 study; isolation of *Salmonella abortivoequina* in 22% of 32 aborted fetuses.
418. KIRSCHÉ, P., and BAYLET, R. Résultat d'une nouvelle enquête sur les ganglions de porc à Dakar. *Bull. méd. A.O.F.*, 1958, 3: 361-363.
419. KLOTZ, G. Gehäuftes Kälbersterben im Zusammenhang mit der Verfütterung von Enteneiern. *Msh. Vetmed.*, 1959, 14: 216-217.
420. KUBIN, G., and GRADINGER, J. Beitrag zur Behandlung der akuten Salmonellose. *Wien. tierärztl. Mschr.*, 1960, 47: 70-74. 10 references.
421. LEE, P. E., and MACKERRAS, I. M. *Salmonella* infections of Australian native animals. *Austral. J. Exp. Biol.*, 1955, 33: 117-125. 16 references.
422. LEE, P. E. *Salmonella* infections of urban rats in Brisbane, Queensland. *Austral. J. Exp. Biol.*, 1955, 33: 113-115. 8 types found in rats.
423. LE MINOR, L., FIFE, M. A., and EDWARDS, P. R. Recherches sur les salmonella et Arizona hébergées par les vipères de France. *Ann. Inst. Pasteur, Par.*, 1958, 95: 326-333. 11 references. 310 native venomous snakes of France, sent for collection of venom, were examined for salmonellae: *S. java* and *S. arizona* isolated.

424. LINKE, H. Über das Vorkommen von Salmonellen in den Mesenteriallymphknoten gesund geschlachteter Pferde. *Arch. Lebensm.*, 1957, 8: 244-246. 2.71% of 184 horses infected with 5 types.
425. MEYNELL, G. G., and MEYNELL, E. W. The growth of micro-organisms in vivo with particular reference to the relation between dose and latent period. *J. Hyg., Lond.*, 1958, 56: 323-346. 5 strains of salmonellae used.
426. MEYNELL, G. G. The applicability of the hypothesis of independent action to fatal infections in mice given *Salmonella typhimurium* by mouth. *J. Gen. Microb., Lond.*, 1957, 16: 396-404.
427. MEYNELL, G. G. Some factors affecting the resistance of mice to oral infection by *Salm. typhi-murium*. *Proc. R. Soc. M., Lond.*, 1955, 48: 916-918.
428. MILLE, R., LE MINOR, L., and CAPPONI, M. Nouvelle contribution à l'étude des salmonella du Centre et du Sud Viet-Nam. Recherches chez les lizards. *Bull. Soc. path. exot., Par.*, 1958, 51: 198-203. 40% of 609 lizards infected with 15 types.
429. MILLER, C. P. Protective action of the normal microflora against enteric infection; an experimental study in the mouse. *Univ. Michigan M. Bull.*, 1959, 25: 272-279. Inhibition of multiplication of injected *Salmonella enteritidis* occurs in the colon of the normal mouse.
430. MILLER, C. P., BOHNHOFF, M., and RIFKIN, D. Experimental study of increased susceptibility to salmonella infection following antibiotic therapy. *Science*, 1957, 125: 749.
431. MONTEVERDE, J. J. Salmonellosis en roedores debida a *Salmonella enteritidis* var. danysz. *Rev. med. vet., B. Aires*, 1956, 38: 145-157.
432. MONTEVERDE, J. J. Salmonellosis en roedores debida a *Salmonella enteritidis* var. danysz. *Rev. med. vet., B. Aires*, 1957, 39: 15-20.
433. MOORE, B. Observations pointing to the conjunctiva as the portal of entry in salmonella infection of guinea pigs. *J. Hyg., Lond.*, 1957, 55: 414-433.
434. \*MORAN, A. B. *Salmonella* in animals; a report for 1957. *Avian Dis.*, 1959, 3: 85-88.
435. MOREL, P. Infection du lapin par *Salmonella pullorum*. *Rec. méd. vet. Ecole d'Alfort*, 1958, 134: 281-283.
436. MORTELMANS, J. Contribution à l'étude des salmonelloses animales au Congo belge au Ruanda-Urundi. *Ann. Soc. belge méd. trop.*, 1958, 38: 547-552.
437. MORTELMANS, J., HUYGELEN, C., and PINCKERS, F. Isolation of *Salmonella infantis* from an aborted bovine foetus. *Nature, Lond.*, 1958, 181: 1539-1540.
438. PATERSON, J. S., and COOK, C. Naturally occurring *Salmonella* limete infection in guinea pigs. *J. Path. Bact., Lond.*, 1955, 70: 242-245.
439. PATHAK, R. C., and SINGH, C. M. Isolation of salmonella species from fowls. *Indian J. Pub. Health*, 1959, 3: 177-179. *S. dublin* and *S. enteritidis* isolated.
440. RASCH, K. Salmonellenfunde bei Tieren in Niedersachsen. *Berl. tierärztl. Wschr.*, 1960, 73: 94-95. 11 references.
441. REITER, R. Salmonellosis in migratory birds (*Sturnus vulgaris*). *Acta med. orient., Tel-Aviv*, 1955, 14: 52-54. 3 different types of salmonella.
442. \*RHOADES, H. E., and HANSON, L. E. Serological response of and pathogenesis of *Salmonella pullorum* in the growing chicken. *Poultry Sc.*, 1957, 36: 1065-1070.
443. RUTQVIST, L., and THAL, E. *Salmonella* isolated from animals and animal products in Sweden during 1956-1957. *Nord. vet. med.*, 1958, 10: 234-244. 9,651 bacteriological examinations disclosed 703 strains of salmonellae belonging to 49 serotypes.
444. \*SALISBURY, R. M. *Salmonella* infections in animals and birds in New Zealand. *N. Zealand Vet. J.*, 1958, 6: 76-86.
445. SCHEBITZ, H., and HANSEN, H. J. Über eine durch *Salmonella abortus equi* verursachte Epididymitis infectiosa beim Eselhengst. *Deut. tierärztl. Wschr.*, 1959, 66: 212-216.
446. SCHEWE, E. Effects of modified host metabolism and altered defense mechanisms on survival time and pathogen counts in tissues and total body of mice infected intravenously with *Salmonella typhimurium*. *J. Infect. Dis.*, 1958, 102: 275-293.
447. SCHILDMAYER. Anwendung und Wirkung von Terramycin in der Behandlung der weissen Küchenruhr. *Tierärztl. Umsch.*, 1955, 10: 405-406.
448. SCHNEIDER, P. A. À propos d'une recrudescence des salmonellosis animales. Salmonellose chez un lièvre et chez une buse. *Schweiz. Arch. Tierh.*, 1956, 98: 351-357.
449. SHAFFER, M. F., MILNER, K. C., CLEMMER, D. I., and BRIDGES, J. F. Bacteriologic study of experimental salmonella infections in chicks. *J. Infect. Dis.*, 1957, 100: 17-31. 31 references. 14 strains used in experiments.

450. SHEARER, G. C. An outbreak of abortion in ewes due to *Salmonella dublin*. *Vet. Rec., Lond.*, 1957, 69: 693-695.
451. SMITH, H. W. The isolation of salmonellae from the mesenteric lymph nodes and faeces of pigs, cattle, sheep, dogs and cats, and from other organs of poultry. *J. Hyg., Lond.*, 1959, 57: 266-273. 16 references. 17 serotypes of *S. typhimurium*, *S. anatum* and *S. cholerae-suis* found in pigs, dogs, and cats.
452. SMITH, W. W., ALDERMAN, I. M., and GILLESPIE, R. E. Resistance to experimental infection and mobilization of granulocytes in irradiated mice treated with bacterial endotoxin. *Am. J. Physiol.*, 1958, 192: 263-267. 18 references. *S. typhosa* endotoxin.
453. STEWART, T. A note on the incidence of salmonella infection in healthy cattle. *Vet. Rec., Lond.*, 1957, 69: 94-95.
454. STRAUCH, D., and MÜNKER, W. Bakteriologische Wasseruntersuchungen in einem oberhessischen Fluss im Zusammenhang mit in diesem Flusstal aufgetretenen Salmonellen-Infektionen bei Haustieren. *Münch tierärztl. Wschr.*, 1956, 69: 205-208. 5 strains of salmonellae found.
455. SUTMÖLLER, P., and KAMPELMACHER, E. H. The occurrence of salmonella among animals in Aruba (Netherlands Antilles) *Antonie van Leeuwenhoek, Amst.*, 1957, 23: 207-217.
456. TANAKA, N., NISHIMURA, T., and YOSHIIKU, T. Histochemical studies on the cellular distribution of endotoxin of *Salmonella enteritidis* in mouse tissue. *Jap. J. Microb.*, 1959, 3: 191-199. 10 references.
457. THAL, E., RUTQVIST, L., and HOLMQVIST, H. *Salmonella* isolated from animals in Sweden during the years 1949-1956. *Nord. vet. med.*, 1957, 9: 822-830. 1,468 infected with salmonella of 805 types.
458. TRUSCOTT, R. B. *Salmonella moscow* isolated from ducks in Ontario. *Canad. J. Comp. M.*, 1956, 20: 345-346. Furazolidone useful in controlling infection.
459. VELHO, E. L. Contribution à l'étude de l'écologie des "Salmonella" des farines de poisson, en Angola. *Bull. Off. inter. epizoot.*, 1958, 50: 330-336.
460. VELLA, E. E. Salmonellosis in lizards of Ghana. *J. R. Army M. Corps.*, 1958, 104: 236-237. 40 of 183 examined positive for salmonella.
461. WILSON, A. N., and BAADE, R. Salmonellosis traced to sea gulls in Ketchikan. *Alaska M.*, 1959, 1: 18-19.
462. WILSON, J. E. The use of furazolidone in the treatment of day-old chicks with *S. pullorum*, *S. gallinarum*, *S. typhimurium* and *S. thompson*. *Vet. Rec., Lond.*, 1955, 67: 849-853.
463. ZIMMERMANN, H. Zur Infektion mit *S. cholerae suis* (var. Kunzendorf) bei Farmernzen. *Mschr. vet. Med.*, 1959, 18: 564-565. 13 references.

### III HUMAN INFECTIONS

464. ALLEGRA, G., and NIUTTA, R. Ascesso solitario del fegato da *Salmonella bareilly*. *Policlinico, sez. prat.*, 1957, 64: 1879-1882.
465. ANDERS, W., LINDER, F., and STEPHAN, W. Die chirurgische Sanierung des Typhus-bazillen-Dauerausscheiders. Bericht über 102 operierte Fälle. *Deut. med. Wschr.*, 1955, 80: 1637-1641. 785 registered carriers in West Berlin.
466. ANDERSON, T. R., and ZIMMERMAN, L. E. Relapsing fever in Korea. A clinicopathologic study of eleven fatal cases with special attention to association with salmonella infections. *Am. J. Path.*, 1955, 31: 1082-1102. 35 references. Louse-borne relapsing fever closely associated with salmonella septicemia.
467. ANDREYENKO, L. M., and KAMALIAN, L. A. Isolation of *Salmonella mission* in acute intestinal illnesses in man and its characteristics. *J. Microb. Epidem. Immun.*, 1959, 30: 128-129. 10 sporadic cases.
468. AUFDEMAUR, M. Enterocolitis Breslau (*Salmonella typhi murium*) mit tödlichem Ausgang. *Gastroenterologia, Basel*, 1957, 87: 158-171. Three fatal cases.
469. BADER, R-E. Die Salmonellosen. In: GRUMBACH, A. and KIKUTH, W. *Infectious-krankheiten des Menschen und ihre Erreger*. Stuttgart, Thieme, 1958. Bd. 1, p. 586-620. Gastroenteritis, septicemia, local suppurative processes; diagnosis, therapy, prevention.
470. BALOWS, A. Unusual salmonella infections. *J. Kentucky M. Ass.*, 1958, 56: 770-773.
471. BECKER-MEYER, M. Die klinische Bedeutung von *Salmonella java* und ihre Abgrenzung gegen *Salmonella paratyphi B*. *Deut. Gesundhves.*, 1956, 11: 881-883.
472. BERGTER, K. Zum Problem der Salmonella-ausscheider-Behandlung. *Arztl. Wschr.*, 1955, 10: 279-282. 23 references. 29 carriers; treatment.

473. BLACK, P. H., KUNZ, L. J., and SWARTZ, M. N. Salmonellosis. A review of some unusual aspects. *N. England J. M.*, 1960, 262: 811-817. 43 references. " \* \* \* official reports do not reflect the true incidence of the disease in this country \* \* \*"
474. BLACK, P. H., KUNZ, L. J., and SWARTZ, M. N. Salmonellosis: A review of some unusual aspects. *N. England J. M.*, 1960, 262: 864-869. 19 references. Meningitis; post-gastrectomy enteritis; "appendicitis"; liver disease.
475. BOBRA, S. T. Chronic empyema due to *Salmonella oranienburg*; complication of an old chest wound. *Canad. M. Ass. J.*, 1958, 78: 599-602.
476. BÖTTIGER, L. E., and LOGERLÖF, B. Unusual fever case; chronic salmonella infection with fatal outcome. *Acta med. scand.*, 1959, 165: 131-135. 12 references. *S. typhimurium* bacteremia.
477. BOCCIANI, B. Bonifica di portatori fecali cronici di salmonelle. (Proposta di un nuovo metodo.) *Gior. mal. infett.*, 1957, 9: 115-116.
478. BOYLE, M. H. *Salmonella dublin* septicaemia. *Lancet, Lond.*, 1958, 2: 1102-1103.
479. BURKHARDT, F. Dauerausscheidung von *Salmonella virchow*. *Zbl. Bakter. I. Abt. Orig.*, 1956, 166: 421-423. 16 references. 2 cases. Adult male still a carrier after 2 years. An infant, a carrier for 3 months.
480. CARRIÓN-COLICHÓN ARBULU, H., and BERROCAL SOTO, A. La salmonellosis en el Perú y la complicación secundaria de la bartonelosis humana o enfermedad de Carríoñ. *Rev. cubana pediat.*, 1958, 30: 623-638.
481. Case 44012. Case records of the Massachusetts General Hospital. *N. England J. M.*, 1958, 258: 42-45. Osteomyelitis of the 8th and 9th thoracic vertebrae due to *S. typhimurium*.
482. Case 411. Case records of the Massachusetts General Hospital. *Am. Practitioner*, 1958, 9: 1295-1300. *S. saint paul* infection in a 64-year-old woman, asymptomatic after treatment; relapse 1 month later.
483. CHAMBON, L., BRES, P., and DELAHOUSSÉ, J. *Salmonella derby* à Saigon. *Bull. Soc. path. exot., Par.*, 1955, 48: 10-12. Non-febrile diarrhea in infant.
484. CHAMBON, L. Isolement de *Salmonella bovis* morbificans à Saigon. *Bull. Soc. path. exot., Par.*, 1955, 48: 12-14.
485. CHEEVER, F. S. The acute diarrheal diseases of bacterial origin. *Bull. N. York Acad. M.*, 1955, 31: 611-626. 14 references. 7 *salmonella* strains most frequently isolated, p. 622.
486. CHOREMIS, K., YANNAKOS, D., and BANTA, C. 2 Fälle von ausgedehnter Osteomyelitis bei Sichelzellanämie. *Helvet. paediat. acta*, 1955, 10: 478-483. Typhoid-paratyphoid osteomyelitis complication.
487. CLYDE, W. A. Salmonellosis in infants and children; a study of 100 cases. *Pediatrics*, 1957, 19: 175-183. 16 references. Comparison of findings with those reported in literature.
488. CONROY, J. V. Acute ileitis with ulceration and perforation due to paratyphoid fever; report of 85 cases. *Mil. M.*, 1957, 120: 79-92. 19 references.
489. COOPER, G. N., and WILSON, M. M. Human salmonellosis in Victoria. *Med. J. Australia*, 1957, 44: 829-832. 1,250 strains isolated, 1951-1957. *S. typhimurium*, 80%; next in order of importance, *S. bovis* morbificans, *S. adelaide*, and *S. newport*.
490. CORDARO, S., and FICHERA, G. Valore della sternomielocoltura e dell' emocoltura nella diagnosi batteriologica delle infezioni da salmonelle e da brucelle. *Acta med. ital. mal. infett.*, 1955, 10: 309-311. 22 references.
491. CORPE, R. F., and COPE, J. A. Bronchogenic cystic disease complicated by unsuspected cholerae suis (salmonella) and aspergillus infestation. *Am. Rev. Tuberc.*, 1956, 74: 92-98. 10 references.
492. CUADRA, M. Salmonellosis complication in human bartonellosis. *Texas Rep. Biol. M.*, 1956, 14: 97-113.
493. DACK, G. M. Current status of therapy in microbial food poisoning. *J. Am. M. Ass.*, 1960, 172: 929-932. Special report to the Council on Drugs. *Salmonella infections*, p. 931-932.
494. DANIEL, R. Necrotic jejunitis due to infection by *Salmonella cholerae-suis*. *Med. J. Australia*, 1957, 44: 292-293.
495. DE BLASI, R., and GABBRIELLI, G. Un quinquennio di tentativi di bonifica di portatori fecali cronici di salmonelle. *Gior. mal. infett.*, 1956, 8: 1-9.
496. DECKER, J. P., and CLANCY, C. F. *Salmonella endocarditis*, report of 3 cases, including 1 of mural endocarditis. *Bull. Ayer Clin. Laborat.*, 1959, 4: 1-15. 33 references. 3 fatal cases due to *S. choleraesuis*.
497. DELAHOUSSÉ, J. LAPEYSSONNIE, L., and BLACHE, R. Septicémies et septicopyothéries à salmonelles rares observées au Nord Viet-Nam. *Méd. trop., Marseille*, 1955, 15: 668-677. 17 cases.
498. DE LA TORRE, J. A. and OLARTE, J. Synematin B in the treatment of salmonella enteritis in infants. *Antibiotic M.*, 1959, 6: 724-730. 10 patients, 1 died, 2 unaffected.

499. DE LA TORRE, J. A., VILLALPANDO, E. E., ESPARZA, H., and OLARTE, J. Unilateral renal vein thrombosis in an infant with sepsis due to *Salmonella choleraesuis*; nephrectomy with recovery. *J. Pediat.*, S. Louis, 1958, 52: 206-211.
500. DEMANET, J. C. A propos d'un cas de pleurésie purulente et de péricardite à *Salmonella typhimurium* (bacille d'Aertrycke). *Acta clin. belg.*, 1957, 12: 516-523.
501. DEPARIS, M., and MONIGAND, G. Toxi-infections à salmonella et intoxications staphylococciques d'origine alimentaire. *Sem. hôp. Paris*, 1955, 31: 956-968. 49 references.
502. DONALD, G., McKENDRICK, W., and MEDLOCK, J. M. Tetracycline in the treatment of sonne dysentery and salmonella enteritis. *Pub. Health, Lond.*, 1958, 72: 25-27.
503. DOSSENA, G. and SCARPIONI, L. Su di un caso di osteomielite da *S. bareilly*. *Boll. Ist. sieroter. Milan.*, 1958, 37: 457-460.
504. EDERER, B. Septisches Krankheitsbild bei einer Infektion mit Gärtnerbakterien. *Med. Klin. Berl.*, 1956, 51: 2165-2167. *Salmonella enteritidis* septicemia in adult.
505. EISENBERG, G. M., BRODSKY, L., WEISS, W., and FLIPPEN, H. F. Clinical and microbiologic aspects of salmonellosis. *Am. J. M. Sc.*, 1958, 235: 497-508. 12 references. Review of 75 cases.
506. EISENBERG, G. M., PALAZZOLA, A. J., and FLIPPEN, H. F. Clinical and microbiologic aspects of salmonellosis; a study of 95 cases in adults and children. *N. England J. M.*, 1955, 578: 90-94. 8 deaths caused by 7 different strains of salmonellae.
507. ELIAKIM, M. Electrocardiographic signs of pericarditis in typhoid fever. *Am. J. M. Sc.*, 1960, 239: 492-497. 12 references. Case in detail.
508. ELLENBOGEN, N. C., RAIM, J., and GROSSMAN, L. *Salmonella* sp. (type montevideo) osteomyelitis. *Am. J. Dis. Child.*, 1955, 90: 275-279.
509. FINGER, D., and WOOD, W. B., JR. The apparent activation of salmonella enteritis by oxytetracycline. *Am. J. Med.*, 1955, 18: 839-841.
510. FINLAND, M., JONES, W. F., JR., and BARNES, M. W. Occurrence of serious bacterial infections since introduction of antibacterial agents. *J. Am. M. Ass.*, 1959, 70: 2188-2197. A comprehensive survey not listing salmonellae specifically, but detailing the serious infections caused by the group of gram-negative bacilli.
511. FISCHER, G. W., and HERMANN, G. Über eine chronische Salmonella-infektion der Lunge. *Münch. med. Wschr.*, 1957, 99: 7-9, passim.
512. FITZGERALD, J., SNYDER, M. J., and SINGLETON, R. T. An unusual case of *Salmonella choleraesuis* meningitis; cure following surgical excision of an infected subarachnoid cyst. *Ann. Int. M.*, 1959, 50: 1045-1050. 13 references.
513. FLIPPEN, H. F., and EISENBERG, G. M. Current problems in Salmonellosis. *Am. J. M. Sc.*, 1960, 239: 278-286. 13 references. Table, p. 280, shows increase of salmonella infections, other than typhoid or paratyphoid, over the past few years.
514. FLIPPEN, H. F., and EISENBERG, G. M. Antimicrobial therapy in medical practice. Philadelphia, Davis, 1955. 284 p. *Salmonellosis* p. 156-161. Table 10. Antigenic serogroup and incidence of *Salmonellae* at the Philadelphia General Hospital (Blockley Division), 1949-1953, p. 165.
515. FOLTZ, E. E., HARDING, H. B., and DERICK, J. Gastroenteritis caused by *Salmonella* litchfield. *Q. Bull. Northwest Univ. M. School*, 1955, 29: 215-218. 2 cases.
516. FORTIN, J. A l'étude des paralysies oculo-motorices dans les salmonellosis. Paris, Editions A. G. E. M. P. 1955. 24 p. Review of literature; case.
517. Frequency of carriers of salmonellae, shigellae, and pathogenic coliform organisms in normal children under 5 years. *Month. Bull. Min. Health Gr. Britain*, 1959; 18: 86-91. 8,748 tests; 8 types of salmonellae isolated; carrier rate "about 2 per 1,000."
518. GADEHOLT, H. Prostatitis typhosa chronic. *Nord. med.*, 1958, 59: 473. English summary. Case. Medication useless; operation cured condition.
519. GÄRTNER, H. Über zwei Krankheitsfälle mit Nachweis von *Salmonella bovis* morbiicans im Sputum. *Zbl. Bakt. I. Abt. Orig.*, 1956, 166: 326-327.
520. GAY, K., and GRANT, L. S. Paratyphoid C osteomyelitis. *West Ind. M. J.*, 1956, 5: 284-288. Complication, sickle cell crisis.
521. GERACI, J. E. The antibiotic therapy of bacterial endocarditis. Therapeutic data on 172 patients seen from 1951 through 1957. Additional observations on short-term therapy (2 weeks) for penicillin-sensitive streptococcal endocarditis. *Med. Clin. N. America*, July 1958, p. 1101-1140. 42 references. Bacterial endocarditis, including salmonellae, p. 1125-1140.
522. GEZON, H. M. Salmonellosis. *D.M.* July 1959. 46 p. 81 references. 17 types of infection, diagnosis, therapy, epidemiology.
523. GILMORE, L. K. Salmonella osteomyelitis complicating sicklecell anemia. *Clin. Proc. Child. Hosp., Wash.*, 1959, 15: 299-305. 27 references. *S. schottmüller* and *S. typhimurium*.

524. GIRAUD, G., LATOUR, H., LEVY, A., ROUJON, J., and BARJON, P. Ostéo-arthrite vertébrale à *Salmonella stanley*. Evolution pseudopottique prolongée depuis trente ans. *Montpellier méd.*, 1955, 48: 491-493.
525. GOLDENBERG, I. S. Sickle-cell anemia, *Salmonellae enteritidis*, osteomyelitis, and remote postoperative wound abscess; report of a case. *Surgery*, 1955, 38: 758-763.
526. GREENSPAN, R. H., and FEINBERG, S. B. *Salmonella* bacteremia; a case with miliary lung lesions and spondylitis. *Radiology*, 1957, 68: 860-862. Bilateral hematogenous dissemination during *S. tennessee* septicemia.
527. HAKIM, A. C. Perforación intestinal en la fiebre tifoidea consideraciones clínico-quirúrgicas. *Rev. san. mil.*, Méx., 1959, 58: 5-18. 24 references. Personal cases and review of reported cases.
528. HENDERSON, N. D., GARLOCK, F. C., and OLSON, B. A. Treatment of acute typhoid with synnematin B. Report of a case. *J. Am. M. Ass.*, 1959, 169: 1991-1994. *S. typhi* was cultured from blood and feces; no response to usual antibiotics; rapid improvement with synnematin B therapy.
529. HENDRICKS, R. G., and COLLARD, P. *Salmonella* osteitis in Nigerian children. *Lancet, Lond.*, 1960, 1: 80-82. 18 references. 13 cases, 7 of which complicated by salmonella infection. 8 strains of salmonellae isolated.
530. HERBSMAN, H., TANAKA, A. M., and STUCKEY, J. H. The first case report of an echinococcus liver cyst infected with *Salmonella saint paul*. *Ann. Surg.*, 1959, 149: 565-571. 13 references. Case of a young man who had no contact with animals except on a farm in early childhood.
531. HOBBS, F. B. Tracing a typhoid carrier by means of sewer swabs. *Lancet, Lond.*, 1956, 1: 855-856. Carrier traced by this unusual method.
532. HOOK, E. W., CAMPBELL, C. G., WEENS, H. S., and COOPER, G. R. *Salmonella* osteomyelitis in patients with sickle-cell anemia. *N. England J. M.*, 1957, 257: 403-407.
533. HSÜ, H.-C., and CHENG, C. Clinical analysis of *Salmonella choleraesuis* infection. *Chinese J. Int. M.*, 1957, 5: 618-621.
534. HUBER, P. Abzedierende eitrige Strurritis verursacht durch *Salmonella choleraesuis*. *Ther. Umschau.*, Bern, 1958, 15: 39.
535. HUET, M. Quatorze cas de salmonellose à *Salmonella tunis*. *Arch. Inst. Pasteur, Tunis*, 1958, 35: 49-53. 3 fatal cases.
536. HUGHES, J. G., and CARROLL, D. S. *Salmonella* osteomyelitis complicating sickle cell disease. *Pediatrics*, 1957, 19: 184-191.
537. HUMBERT, R. Diagnosis and treatment of salmonella carriers: Observations on 100 patients. *German M. Month.*, 1959, 4: 193-197. This is the English edition of *Deut. med. Wschr.*
538. ISMANGOEN. Neonatal gastroenteritis due to pathogenic *Escherichia coli* and/or *Salmonella worthington*. *J. Trop. Pediat.*, 1957, 3: 13-16.
539. JACKSON, D. C. *Salmonella* osteomyelitis in infancy with a case due to *Salmonella newport* infection. *Med. J. Australia*, 1958, 2: 160-162.
540. JARNIQU, A. P., and MOREAU, A. Les localisations pleurales dues à *Salmonella cholerae suis* (variété Kunzendorf). *Sem. hôp. Paris*, 1957, 33: 2810-2813.
541. JARNIQU, A. P., and MOREAU, A. Étude de localisations pleuropulmonaires graves rencontrées au cours de certains salmonelloses. *Bull. Soc. méd. hôp. Paris*, 1956, 72: 494-515. 7 cases.
542. JOEST, W. Vorkommen von Salmonellen und Bewertung der Diagnostik. *Oeff. Gesundhdienst*, 1957, 19: 136-167. Author says it is not justified to classify all salmonella infections except typhoid and paratyphoid as food poisoning.
543. JUENKER, A. P. Infections with multiple types of *Salmonellae*. *Am. J. Clin. Path.*, 1957, 27: 646-651. 6 references. 13 multiple infections demonstrated in feces of 75 persons with salmonella infections.
544. JUNG, A., and NESSELER, H. ABCs chronique du poumon à bacille paratyphique C, *Salmonella bovis* morbificans; lobectomy in période évolutive; guérison. *Presse méd.*, 1957, 65: 1540-1542.
545. KAFFKA, A. *Salmonella cholerae suis* var. kunzendorf als Erreger einer primären chirurgischen Erkrankung. *Zbl. Bakt. I. Abt. Orig.*, 1955, 163: 226-228.
546. KLEINMAIER, H., and SCHAFER, E. Beitrag zur Pathogenitätsfrage der Bethesda-Ballerup-Stämme. *Zbl. Bakt. I. Abt. Orig.*, 1956, 165: 97-107. 7 references. Serotype 1 c; (13) 18, 19 could be demonstrated in both sick and healthy persons. Assumption of unlimited pathogenicity is not valid.
547. KOHN, A. Über drei Erkrankungsfälle durch *Salmonella cholerae suis*. *Mschr. Kinderh.*, 1959, 107: 322-327.
548. KRAC, D., and SHEAN, D. B. Serious human infections due to bacilli of the Arizona group. *California M.*, 1959, 90: 230-233.
549. KRAUTER, S. Darminfektionen durch seltene *Salmonellen* (S. Bareilly). *Wien. med. Wschr.*, 1958, 108: 820-822.

550. KRAUTER, S., HEROLD, H., and PRANKA, G. Titerhöhe und Immunglobuline bei antibiotisch behandelten Salmonellosen. *Wien. med. Wschr.*, 1957, 107: 667-670.
551. KRÖNENBERGER, F. L., and SMITH, H. G. Unusual occurrence of acid-fast "saprophyte" and *Salm. typhi-murium* in association with pulmonary lesion. *Brit. J. Dis. Chest*, 1956, 50: 225-232. 13 references.
552. KUMATE, J., LÁZARO BENAVIDES, V., PÉREZ, J. L., CRILLOS, O. T., and CARRILLO, J. Plasma cholinesterase in infections due to enterobacteriaceae. *J. Infect. Dis.*, 1956, 98: 1-9. 21 references. *S. derby* and *S. typhi-murium*, as well as *S. typhi* and *S. paratyphi A*, in the group of bacteria tested.
553. LAMBOTTE-LEGRAND, J., and LAMBOTTE-LEGRAND, C. Notes complémentaires sur la drépanocytose (sickle-cell). III. Les salmonelloses dans l'anémie drépanocytaire et microdrépanocytaire. *Ann. Soc. belge méd. trop.*, 1958, 38: 535-545.
554. LAYLEE, A. M. Human infection with *Salmonella choleraesuis*. *Brit. M. J.*, 1957, 1: 1284-1285. 2 cases; first, septicemia and osteomyelitis; second, empyema.
555. LIPP, R. Bakteriämie bei *Salmonella-Schwarzengrund*-Infektion. *Zbl. Bakt. I. Abt. Ref.*, 1957, 169: 568-569. Blood cultures established the diagnosis.
556. LOOCK, K. H. Salmonellenuntersuchungen bei Galle- und Leberkranken. *Arztl. Wschr.*, 1959, 14: 618-619. 13 references. 7 of 116 patients with gall bladder or liver disease, had salmonella infections.
557. LU, S-T. Salmonella infections. *Chinese M. J.*, 1955, 73: 412-424. 33 references. 177 cases, 69 typhoid.
558. LUNDSTRÖM, R. Skin infection with *Salmonella rostock* in a newborn infant. *Acta paediat., Upps.*, 1955, 44: 584-587. *S. rostock* isolated from feces of both mother and child.
559. MAGE, J., and MARTIN, P. Abcès épidermal par ostéomyélite occipitale, unique manifestation d'une infection à paratyphique B. *Acta neur. psychiat. belg.*, 1958, 58: 861-867.
560. MAIER, L. Über Salmonellosen im Kindesalter. *Kinderärztl. Prax.*, 1957, 25: 159-164. 18 references. 48 cases of salmonella infections in 1 year in Hamburg.
561. MANNWEILER, E. Tetracyclin Wirkung auf Salmonellen. *Zschr. Immunforsch.*, 1958, 115: 38-55.
562. MANNWEILER, E., and HUMBERT, R. Durch Enteritiserreger der Salmonella-Gruppe hervorgerufene Bakteriamien. *Deut. med. Wschr.*, 1957, 82: 2215-2218, passim. 153 cases.
563. MARTIN, W. J., SPITTEL, J. A., MORLOCK, C. G., and BACGENSTOSS, A. H. Severe liver disease complicated by bacteremia due to gram-negative bacilli. *A.M.A. Arch. Int. M.*, 1956, 98: 8-15. *Salmonellae* isolated, species undetermined.
564. MASSA, A. Clinical trial of furazolidone in treatment of diarrhoea. *Brit. M. J.*, 1959, 2: 1063-1065. 12 of 47 cases due to *S. antum*, *S. derby*, *S. newport* and *S. typhi-murium*.
565. MAYFIELD, D. R. Necrotic jejunitis due to infection by *Salmonella choleraesuis*. *Med. J. Australia*, 1957, 44: 392-393.
566. MEYER, M., SPÖSSIG, M., and KÖST, E. Enteritiskrankung durch *Salmonella haifa*. *Zbl. Bakt. I. Abt. Orig.*, 1955, 162: 541-542. 2 cases, 1 died. Infection may have been caused by eating unwashed grapes.
567. MOLESE, A., TEDESCHI, G., and VIGNANI, A. Epatite cronica paralitiasica con ittero febile da *Salmonella paratyphi A*, grave insufficienza epatica, ascite ed idrotorace; rilievi e considerazioni. *Acta med. ital. mal. infett.*, 1957, 12: 211-218.
568. MONTERO RODRÍQUEZ, A. El empleo del chloramfenicol a dosis bajas en las salmonellosis. *Rev. españ. pediat.*, 1959, 15: 249-263.
569. MOUNTFORD, P. F. *Salmonella typhi-murium* osteomyelitis; report of a case. *N. Zealand M. J.*, 1958, 47: 166-167.
570. NAUMANN, P., and ROHRS, H. Ein Beitrag zur Frage der *Salmonella-Doppelinfektion*. *Zschr. Hyg.*, 1958, 145: 103-110. Case: *S. Typhimurium* isolated from urine, *S. blockley* from stools.
571. NEIMAN, N., PIERSON, M., and GINSBOURGER, N. Syndrome de Fiessinger-Leroy-Reiter déterminé par le bacille de Gaertner chez le nourrisson. *Rev. méd. Nancy*, 1959, 84: 302-305.
572. NEWELL, K. W. The investigation and control of salmonellosis. *Bull. World Health Org.*, 1959, 21: 279-297.. 51 references. Incidence, methods of spread, susceptibility, control.
573. OLITSKY, I., ROSENTHAL, M. H., and COPELAND, J. R. Family infection with multiple salmonella types including two  $H_2$  S-negative variants. *J. Bact., Balt.*, 1956, 72: 569-570. Case with multiple infection. Members of family carriers of *Salmonellae* bareilly, muenchenoregon, and montevideo; in addition 2 members also carriers of *S. typhosa* and *S. senftenberg*.

574. PAN AMERICAN SANITARY BUREAU. Seminarios sobre diarreas infantiles. Santiago, Chile, 5-10 noviembre, 1956. Tehuacán, México, 29 de julio- 3 de agosto, 1956. Washington, D.C., Of. san. panam., 1958, 139 p. Shigella, salmonella, and E. coli etiologic agents. Diagnosis, treatment, prevention.
575. PATRIZIO, R. J., and MUNCY, P. A. Carcinoma of the rectum as a focus of Salmonella bareilly infection. Report of a case. *J. Internat. Coll. Surg.*, 1956, 26: 359-360. 10 references. The neoplasm found on investigation of the intestinal infection.
576. PETERSEN, K. F. Mehrfachinfektionen mit pathogenen Darmbakterien. *Zschr. Hyg.*, 1959, 146; 13-18. 24 references. 8 cases of multiple infection, 4 involving salmonellae. 2 cases of mixed S. paratyphi B, and S. enteritidis; 1 case of S. paratyphi B, S. mission and S. orion; 1 case of shigella and S. panama.
577. PHILLIPS, W. P. Salmonella infections; medical aspects. *R. Soc. Health J., Lond.*, 1956, 76: 649-653.
578. POLANETZKI, U., and BRANDIS, H. Über Infektionen durch Salmonella cholerae suis. *Med. Mschr.*, 1955, 9: 665-667. 3 cases, each preceded by a long illness which caused diminished resistance.
579. POOLE, P. M., and ARDLEY, J. Description of 20 cases of Salmonella enteritidis infection. *Month. Bull. Min. Health Gr. Britain*, 1958, 17: 147-154.
580. RABE, E. F. Present-day problems in salmonellosis. *Pennsylvania M. J.*, 1958, 61: 209-214. 19 references. 44 cases. Table 1, p. 210, summary of clinical and etiologic data. Table 5, p. 213, therapeutic results.
581. RABE, E. F. The treatment of salmonellosis with massive doses of penicillin compared with other methods of therapy. *Pediatrics*, 1955, 16: 590-598. 27 hospital cases; emphasis on therapy and prevention of carrier state.
582. RALSTON, E. L. Osteomyelitis of the spine due to Salmonella cholerae suis. *J. Bone Surg.*, 1955, 37a: 580-584.
583. RANC, A. Infectiones humaines à Salmonella cholerae suis (variété diphasique) du Cambodge. *Bull. Soc. path. exot., Par.*, 1955, 48:625-629. 4 cases, 3 with suppurating lesions.
584. RICH, M., and ST. MARY, E. Salmonella subacute bacterial endocarditis. *Ann. Int. M.*, 1956, 44: 162-166. 20 references. Case: S. choleraesuis von Kunzen-dorf; patient survived; of 24 previously reported cases only 2 survived.
585. RICHTER, K. H., GEBHARDT, H., and KNORR, M. Ein Fall von Salmonella-heidelberg-Meningitis. *Kinderärztl. Prax.*, 1958, 26: 393-394. Month-old baby treated with chloramphenicol; survived.
586. ROBERTS, A. R., and HILBURG, L. E. Sickle-cell disease with salmonella osteomyelitis. *J. Pediat., S. Louis*, 1958, 52: 170-175. 29 references. 4 cases. Infected by S. bredeney, S. oranienburg, S. typhimurium and S. infantis.
587. ROBERTS, D. W. T., and BARON, L. S. Typhoid fever with vulvovaginitis. *Lancet, Lond.*, 1958, 1: 1043-1044. 2 cases.
588. ROSOVE, L. Chronic subphrenic abscess due to Salmonella oranienburg infection; case report and review of literature. *Ann. Int. M.*, 1957, 46: 169-179. Post-operative osteomyelitis which followed an acute enterocolitis.
589. RUIZ LÓPEZ, A., BUSTELO, E. V., GORDÓN DE CAMÍN, D. L., and ANSIAUME, E. M. Trastornos digestivo-nutritivos por salmonellas en el niño; contribución al estudio de la infección hídrica en Mendoza. *Acta pediat. españ.*, 1958, 16: 150-154. Salmonellae new-port, typhimurium, bradeney, muenster, give, anatum and video were isolated.
590. SALICETI, E., and DU PASQUIER, P. Diagnostic bactériologique des affections humaines à entérobactéries. *J. méd. Bordeaux*, 1959, 136: 1207-1228. Detailed descriptions.
591. SANGUINETTI, M. C. A case of sickle-cell disease complicated by salmonella osteomyelitis. *Canad. J. M. Techn.*, 1957, 19: 24-25.
592. SAPHRA, I. Antibiotic treatment of enteral or parenteral salmonella infections. *Antibiotic M.*, 1956, 3: 437-438. Different therapy needed in gastrointestinal infections, and in bacteremia causing pneumonia, meningitis, etc.
593. SCHÄFER, W. Über die Dauer der Infektiosität von Salmonellosen. *Zbl. Bakt. I. Abt. Orig.*, 1958, 172: 272-281. Post-infection carriers. 3 successive weekly examinations of feces must be negative; if not, patient is registered as long-term carrier. 1.1% of 313 patients, carriers.
594. SCHMIDT-LANGE, W., MOELLER, M., LEDERBOGEN, K., and BAUSCH, F. Noch unbekannte Salmonella verursacht tödliche Darminfektion. *Zbl. Bakt. I. Abt. Orig.*, 1955, 164: 523-524. A new type (S. blockley) isolated from a fatal case.
595. SCHNEIERSON, S. S., and BRYER, M. S. Furazolidone (furozone) in the treatment of salmonella infections. *J. Mount Sinai Hosp., N. York*, 1959, 26: 525-531.

596. SCHRIRE, I. The convalescent excretor of salmonellae. *Lancet, Lond.*, 1960, 1: 56-57. 7 references.
597. SILVER, H. K., SIMON, J. L., and CLEMENT, D. H. Salmonella osteomyelitis and abnormal hemoglobin disease. *Pediatrics*, 1957, 20: 439-447. 19 references. 2 cases: first case, splenectomy, wound abscess, *S. enteritidis*; second case, *S. typhimurium*, osteomyelitis.
598. SIMON, S. D., and SILVER, C. M. Salmonella osteomyelitis; report of 3 cases, 1 with fatal outcome and autopsy. *J. Internat. Coll. Surg.*, 1957, 28: 197-205.
599. SPITTEL, J. A., MARTIN, W. J., and NICHOLS, D. R. Bacteremia owing to gram-negative bacilli, experiences in the treatment of 137 patients in a 15-year period. *Ann. Int. M.*, 1956, 44: 302-315. 22 references. Salmonellae among bacteria studied.
600. STEIN, H., and SHAFF, G. Antibiotics in the treatment of shigella and salmonella enteritis. *S. Afr. M. J.*, 1958, 32: 1161-1164. 31 patients with salmonella infections treated with chloramphenicol; 23 recovered, 2 relapsed, 6 died.
601. STENSTRÖM, R. Spondylitis caused by *Salmonella typhimurium*. *Acta radiol. Stockh.*, 1958, 49: 355-359. Case. Review of cases previously reported.
602. STORY, P., and HANBURY, W. J. Morphological changes in *Salmonella typhimurium* infections. *J. Path. Bact., Lond.*, 1957, 73: 443-450. 26 references. 4 cases, post mortem findings.
603. STREITFELD, M. M., SASLAW, M. S., and LAWSON, R. B. Chloramphenicol-tetracycline treatment of salmonellosis in children; strip gradients and replica strip-gradient techniques as guides to therapy. *A.M.A. J. Dis. Child.*, 1957, 94: 155-168. 29 references. 29 cases.
604. STUTZ, L. Über einen Lungenabszess mit *S. kottbus* und *S. newport*. *Zbl. Bakt. I. Abt. Orig.*, 1959, 175: 476-478. 9 references.
605. STUTZ, L. Ein Fall von septischer *S. cholerae suis* var. *kunzendorf*-Infektion. *Zbl. Bakt. I. Abt Orig.*, 1958, 171: 373-375. 14 references.
606. TALBOT, J. M., and HUNT, J. A. Infection of bone and joint by salmonellae. *Brit. M. J.*, 1957, 2: 1095-1096. 2 cases; first case *S. cholerae suis* var. *kunzendorf* infection; the second, *S. typhimurium* infection.
607. TEN EYCK, F. W., and WELLMAN, W. E. Salmonellosis associated with abdominal aneurysm and edema of lower extremities. Case report. *Postgrad. M.*, 1959, 26: 334-339. 25 references.
608. THIODET, J., FOURRIER, A., and ARROYO, H. Complications cardiovasculaires de la fièvre typhoïde et perturbations du métabolisme cellulaire. *Press méd.*, 1959, 67: 1305-1308. Therapy must include potassium.
609. THOMAS MAIR, E. M. Enteritis from tortoises. *Month. Bull. Min. Health, Gr. Britain*, 1957, 16: 29-31. A family of 5 children infected by a pet tortoise. Cause, an atypical member of the arizona group.
610. THOMSON, S. The numbers of pathogenic bacilli in faeces in intestinal diseases. *J. Hyg., Lond.*, 1955, 53: 217-224. 20 cases of salmonella infections; *S. typhimurium* 16, *S. thompson*, 2, *S. bovismorbificans*, 2.
611. THURMAN, W. G., and PLATOU, R. V. Some experiences with kanamycin in the treatment of salmonella and shigella infections. *Ann. N. York Acad. Sc.*, 1958, 76: 230-234. 43 cases.
612. TWINING McMATH, W. F., and HUSSAIN, K. K. A preliminary clinical trial of humycin in salmonellosis. *Pub. Health, Lond.*, 1959, 73: 328-331. 6 references.
613. URTEAGA, B., and PAYNE, E. H. Treatment of the acute febrile phase of Carrión's disease with chloramphenicol. *Am. J. Trop. M. Hyg.*, 1955, 4: 506-511. 19 patients; of these 3 had coexisting salmonella infections.
614. UTIAN, H. L. *Salmonella dublin*, a case complicated by a right subdural effusion. *S. Afr. M. J.*, 1957, 31: 577-579.
615. VALLEDOR, T., BORBOLLA, L., GUERRA CHABAU, A., and PRIETO, E. Meningitis a *Salmonella minnesota*. Reporte de un caso. *Rev. cubana pediat.*, 1956, 28: 611-618.
616. VECE, A. Considerazioni su alcuni casi di meningite de salmonelle. *Pediatria, Nap.*, 1956, 64: 65-78. 16 references. Review of literature. 7 personal cases.
617. WADDELL, W. R., and KUNZ, J. Association of salmonella enteritis with operations on the stomach. *N. England J. M.*, 1956, 255: 559. 9 cases. Salmonellae involved: san diego, panama, arizona, typhimurium, muenchen-oregon, newport, new brunswick, and enteritidis.
618. WAISBREN, B. A. The treatment of bacterial infections with the combination of antibiotics and gamma globulin. *Antibiotics*, 1957, 7: 322-333. Case of salmonella infection, p. 326-328.
619. WATSON, K. C. Salmonella meningitis. *Arch. Dis. Childh., Lond.*, 1958, 33: 171-175.

620. WEISS, W., EISENBERG, G. M., and FLIPPEN, H. F. *Salmonella* pleuropulmonary disease. *Am. J. M. Sc.*, 1957, 233: 487-496. 10 references. Clinical bacteriologic and serologic findings in 4 cases. This type of infection is uncommon and not always accompanied or preceded by enteritis.
621. WILDFÜHR, G. Zur serologischen Differenzierung von *Salmonellatypen* bei Mischinfektionen. *Zschr. Hyg.*, 1956, 143: 181-187.
622. WINKLE, S., and ROHDE, R. Die Bedeutung von Mischinfektionen durch mehrere *Salmonella*-Typen für Diagnostik und Epidemiologie. *Zbl. Bakt. I. Abt. Orig.*, 1958, 173: 153-157.
623. WOFFORD, J. D., WALLACE, C. E., and ALLISON, F., JR. Typhoid fever complicated by intestinal perforation and myocarditis. *Ann. Int. M.*, 1960, 52: 259-267.
624. WOMACK, A. M. Acute urinary infection due to *Salmonella typhimurium* in a patient receiving steroid therapy. *Month. Bull. Min. Health Gr. Britain*, 1959, 18: 184-187.
625. ZAI, M., and HAGGERTY, J. Neonatal meningitis. *N. England J. M.*, 1958, 259: 314-320. 26 of 83 patients infected with gram-negative bacilli; included were *S. enteritidis* and *S. choleraesuis*.
626. ZAK, F. G., STRAUSS, L., and SAPHRA, I. Rupture of diseased large arteries in the course of enterobacterial (*salmonella*) infections. *N. England J. M.*, 1958, 258: 824-828. 11 autopsies. *Salmonellae typhimurium*, *cholerae suis*, *newport* and *oranienburg* isolated.

## IV EPIDEMIOLOGY

627. ARBUZOVA, V. A. Some epidemiological features of contemporary breslau salmonellosis [*S. typhimurium* infection]. *J. Microb. Epidem. Immun.*, 1958, 29: 33-37.
628. BATE, J. G., and JAMES, U. *Salmonella typhimurium* infection dust-borne in a children's ward. *Lancet, Lond.*, 1958, 2: 713-715. 7 outbreaks in less than 1 year; source, dust bag of a vacuum floor polisher.
629. BENGTSSON, E., HEDLUND, P., NISELL, A., and NORDENSTAM, H. An epidemic due to *Salmonella typhimurium* (breslau) occurring in Sweden in 1953, with special reference to clinical complications, bacteriology, serology, antibiotic treatment, and morbid anatomy. *Acta med., scand.*, 1955, 153: 1-20. A definitive article.
630. BENNETT, I. L., JR., and HOOK, E. W. Some aspects of salmonellosis. *Ann. Rev. M.*, 1959, 10: 1-20. 253 references. Epidemiology; animal reservoirs; carriers; modes of transmission; types of human infections.
631. BISCHOFF, J. Das Vorkommen von *Salmonellabakterien* in Eierzeugnissen und ihre Abtötung durch Pasteurisierung. *Ber. tierärztl. Wschr.*, 1959, 72: 129-130. 36 strains isolated in 82,594 tests.
632. BLACK, P. H., KUNZ, L. J., and SWARTZ, M. N. Salmonellosis; a review of some unusual aspects. *N. England J. M.*, 1960, 262: 921-926. 24 references. Unusual epidemiologic aspects. Included are double infections, unusual sources of infection, and hospital infections.
633. BLAXLAND, J. D., SOJKA, W. J., and SMITH, A. M. A study of *Salm. pullorum* and *Salm. gallinarum* strains isolated from field outbreaks of disease. *J. Comp. Path.*, 1956, 66: 270-277. 24 references.
634. BLUM, H., and PULVER, W. Über Enteritis-Breslau-Epidemien mit besonderer Berücksichtigung der 1956 im Kantonsspital Luzern hospitalisierten Kranken. *Schweiz med. Wschr.*, 1957, 87: 477-482. 45 cases caused by *S. typhimurium*; 5 deaths.
635. BOKKENHEUSER, C., and GREENBERG, M. A review of salmonellosis in South Africa. *S. Afr. M. J.*, 1959, 33: 702-706. 80 references. Table I, p. 703-704, lists all types of *salmonellae* isolated.
636. BOKKENHEUSER, V. *Salmonella* and *shigella* infections in Africa. *S. Afr. M. J.*, 1959, 33: 36-37. 12 references. In 1957, 59 different kinds of *salmonella* isolated.
637. BOYD, J. M. An outbreak of *Salmonellosis newport* in Fife. *Health Bull., Edinb.*, 1958, 16: 31-36.
638. BRODHAGE, H. Bericht über eine *Salmonella typhimurium* (Enteritis-Breslau) Epidemie. *Praxis*, 1957, 46: 1-4. 219 cases, 5 died.
639. BROWN, W. G., MARTIN, G. K., and TAYLOR, A. W. An outbreak of food poisoning in an urban hospital. *Canad. J. Pub. Health*, 1958, 49: 95-100. *S. typhimurium* infection in 89 persons on hospital staff.
640. \*BUNDESST, R. R. Das Vorkommen von *Salmonellosen* in den Jahren 1954 bis 1958 in Österreich. *Mitt öst. San. Verw.*, 1959, 60: 99-104.
641. BUXTON, A. Public health aspects of salmonellosis in animals. *Vet. Rec., Lond.*, 1957, 69: 105-109. 87 references.

642. CALLIS, L. M. Epidemiología de la fiebre tifoidea en Barcelona. *Rev. san. Madr.*, 1958, 32: 381-425. Endemic; 7,160 cases in 40 years. Only 3,000 of population of 1,500,000 have been vaccinated.
643. CAPONI, M., and SUREAU, P. Enquête sur les entérobactéries des viandes de boucherie de dalat (Centre-Vietnam); isolement de Salmonella budapest. *Bull. Soc. path. exot., Par.*, 1955, 48: 607-610.
644. CARUANA, M., and HUET, M. Epidémies d'entérites à Salmonella reading dans une pouponnière. *Arch. Inst. Pasteur Tunis*, 1955, 32: 317-330. Hospital outbreak.
645. COLLARD, P., and SEN, R. Salmonellae isolated at Ibadan. Second report; strains isolated during 1957. *West Afr. M. J.*, 1959, 8: 114-116. 31 strains isolated from patients and carriers.
646. COURTER, R. D. La infección Salmonella dublin en Estados Unidos. *Bol. Of. san. panamer., Wash.*, 1960, 48: 57-58.
647. \*DARRASSE, H. Aspects épidémiologiques des salmonelloses. *Bull. nat. méd., Dakar*, 1957, 5: 279-285.
648. DAUER, C. C., and DAVIDS, D. J. 1958 summary of disease outbreaks. *Pub. Health Rep.*, 1959, 74: 715-720. Salmonellosis, p. 715-716. In table 2, p. 217, 27 outbreaks and 1,043 cases reported.
649. DAUER, C. C. 1957 summary of disease outbreaks. *Pub. Health Rep.*, 1958, 73: 681-686. Salmonellosis, p. 684-685. In table 2, p. 683, 30 outbreaks and 1,607 cases reported.
650. DAUER, C. C., and SYLVESTER, G. 1956 summary of disease outbreaks. *Pub. Health Rep.*, 1957, 72: 735-742. Salmonellosis, p. 737-738. In table 2, p. 739, 23 outbreaks, 1,999 cases reported.
651. DECKER, E. H., DEVINE, J. V., and COHEN, J. R. Salmonella as a hospital infection. *Hospitals*, 1959, 33 (19): 59-64.
652. DE LA CRUZ, E. Epidemiología de la salmonellosis in Costa Rica. 1. Salmonellosis en porcinos. *Rev. biol. trop., San José*, 1958, 6: 27-35. 23 references. 22 strains; 8 serotypes.
653. DENISON, G. A. Contamination of school water supply with sludge from the septic tank. *J. M. Ass. Alabama*, 1959, 29: 199-202. Prompt and effective means taken to stem a threatened epidemic in a school and community.
654. DOCHKIN, I. I. Outbreaks of influenzal illnesses caused by Salmonella virchow. *J. Microb. Epidem. Immun.*, 1959, 30(4): 131-132. 29 hospital patients.
655. DRACHMAN, R. H., PETERSEN, N. J., BORING, J. R., and PAYNE, F. J. Widespread Salmonella reading infection of undetermined origin. *Pub. Health Rep.*, 1958, 73: 885-894. 23 references. 325 acute sporadic cases and 3 outbreaks in United States. Tables summarize findings.
656. DRÄGER, H. Entstehung und Verhütung von Lebensmittelvergiftungen durch Salmonellabakterien. *Jena, Gustav Fischer*, 1958. 98 p. 54 references. Infections in man, animal, and animal feed.
657. EDWARDS, P. R. Salmonellosis; observations on incidence and control. *Ann. N. York Acad. Sc.*, 1958, 70: 598-613. 160 references. Review of literature. Animal carriers; infected food.
658. EDWARDS, P. R. Animal diseases and public health. Salmonellosis; incidence and control. *Pub. Health Rep.*, 1958, 73: 368-370. Dogs, cats, rodents, snakes, tortoises, flies and ticks may be vectors. \*\*\* birds probably constitute the largest single reservoir in animals."
659. EDWARDS, P. R. Salmonella and salmonellosis. *Ann. N. York Acad. Sc.*, 1956, 66: 44-53. 99 references. Main sources, animal reservoirs and human carriers.
660. ERBER, M. Salmonellosis on the east coast of Sumatra, 1948-1952. *Docum. med. geogr. trop.*, 1955, 7: 83-91. 31 references.
661. FAUCON, R., and RALAIMHOATRA. Isolement de Salmonella muenchen pour la première fois chez l'homme à Madagascar. *Arch. Inst. Pasteur Madagascar*, 1958, 26: 171-174.
662. FELIX, A. Phage typing of Salmonella typhimurium: its place in epidemiological and epizootiological investigations. *J. Gen. Microb., Lond.*, 1956, 14: 208-222. 45 references.
663. FERRARI, M. Su due episodi tossinfettivi da ingestione di gelati contaminati da salmonella e da stafilococco. *Ig. sanit. publ.*, 1959, 15: 201-212.
664. FORSTER, F. M. C., and LAVER, J. C. Control of an epidemic of acute infective enteritis of the newborn. *M. J. Australia*, 1956, 1: 57-59. *S. typhimurium*.
665. FREEDMAN, B. Sanitarians handbook; theory and administrative practice. New Orleans, Peerless Publishing Company, 1957. 1083 p. Food-borne salmonella infections, p. 531-534. Salmonellae also considered under rat control, milk and water sanitation, the home and school, etc.
666. FRIDAY, F. M. An investigation of the serological response to salmonella and shigella infection of children. *M. J. Australia*, 1955, 2: 122-125. 55 of 96 cases admitted to hospital for gastroenteritis; etiologic agent, *S. typhimurium*.

667. FRITSCH, H. Über eine Epidemie durch Salmonelleninfektion (S. newport) im Kindesalter. *Mschr. Kinderh.*, 1955, 103: 339-342. Hospital epidemic, 34 cases. Source diaper washing machine.
668. FROMME, W. Zur Epidemiologie der Salmonelleninfektion. *Erg. Mikrob. Immunforsch.*, 1959, 32: 161-195. 211 references. Review of literature. Occurrence of salmonellae in water, birds, other animals, animal feeds, man. Increase of bacteria in high water and floods.
669. FU, J-S., LIN, C-C., CHOW, P-C., CH'EN, Y-L., KAN, C-J., and CH'UI, C-C. A preliminary report on *Salmonella cholerae-suis* infection in Chengtu. *Chinese J. Int. M.*, 1957, 5: 618-621.
670. GANGULI, S., and AROGYADUSS, S. *Salmonella morehead* in Madras. *Ind. J. M. Res.*, 1956, 44: 181-184.
671. GÄRTNER, H., and BÖHLCK, I. Epidemiologische Beobachtungen über das Auftreten von *Salmonella java* und Untersuchungen an 23 Stämmen. *Arch. Hyg., Münch.*, 1958, 142: 415-419.
672. GAYLER, G. E., MACCREADY, R. A. REARDON, J. P., and MCKERNAN, B. F. An outbreak of salmonellosis traced to watermelon. *Pub. Health Rep.*, 1955, 70: 311-313. 17 primary and 2 secondary cases in 5 family groups, 1 death. S. miami recovered.
673. GRANT, J., and NORTON, P. An outbreak of enteritis due to a salmonella organism closely resembling *Salm. paratyphi B*. *Month. Bull. Min. Health Gr. Britain*, 1955, 14: 79-89. 43 cases and 56 carriers.
674. GUERRO ITURBE, A. Salmonellosis datos geográficos del pueblo de Súchil. Durango, México, 1955. (Thesis, Universidad de México) 38 p. 9 references. 20 cases; clinical history, diagnosis, treatment, diet, prophylaxis. 4 different types of S. fever reported from the state of Durango differentiated by laboratory findings.
675. GULASEKHARAM, J., VELAUDAPILLAI, T., and NILES, G. R. The isolation of salmonella organisms from fresh fish sold in a Colombo fish market. *J. Hyg., Lond.*, 1956, 54: 581-584.
676. HANDLÖSER, H. M. Epidemiologische Beobachtungen bei einer Masseninfektion durch S. blockley. *Arch. Hyg., Münch.*, 1956, 140: 569-580. 28 references. 561 cases; probable source pork from pigs fed on infected imported fish meal.
677. HENZE, B. Hausinfektionen mit Salmonellen und Shigellen in den Berliner Krankenanstalten. *Oeff. Gesundhdienst*, 1957/58, 19: 289-291. Carriers among hospital personnel.
678. HOBBS, B. C., and WILSON, J. G. Contamination of wholesale meat supplies with salmonellae and heat-resistant *Clostridium welchii*. *Month. Bull. Min. Health Gr. Britain*, 1959, 18: 198-206. 15 references. Table 2, p. 201, lists salmonella serotypes isolated.
679. HOFMANN, P., and WOLLE-JOHN, R. Gehäuftes Vorkommen von *Salmonella saint paul*. *Zbl. Bakt. I. Abt. Orig.*, 1955, 162: 357-359. 47 persons infected but only 8 showed clinical signs.
680. HOROWITZ, A. United States-Mexico Border Public Health Association. Conference report. *Pub. Health Rep.*, 1960, 75: 171-178. Increases in outbreaks of S. oranienburg, S. chester, and S. blockley infections.
681. HUET, M. Une nouvelle salmonella pathogène pour l'homme, *Salmonella tunis*; à propos de 50 observations. *Bull. Acad. nat. méd., Par.*, 1958, 142: 729-732.
682. HUET, M., CARUANA, M., and THONIER, J. Infections humaines dues à *Salmonella brandenburg*. *Arch. Inst. Pasteur Tunis*, 1957, 34: 87-94.
683. IPPEN, R., and STOLL, L. *Salmonellaenzootie bei asiatischen Steinböcken*. *Msh. Vetmed.*, 1959, 14: 284-286.
684. JELLARD, C. H., JOLLY, H., and BROWN, R. N. An outbreak of *S. bovis-morbificans* infection in a children's ward. *Lancet, Lond.*, 1959, 1: 390-392. Infant admitted to hospital; her brother a carrier. Outbreak due to inadequate sterilization of diapers.
685. JOINT WHO/FAO EXPERT COMMITTEE ON ZOOSES. Second report *W.H.O. Technical Report Series*. 1959, 169: 1-84. 11 countries represented. Salmonellosis one of diseases considered; incidence, animal reservoirs, diagnosis, spread, and vaccines.
686. KANTON, E. T. Zum Nachweis von Salmonellen in Eierprodukten und anderen Lebensmitteln. *Mitt. Lebensmitteluntersuch., Bern*, 1959, 50: 145-158.
687. KARPINSKI, W. Bericht über eine Enteritis—Epidemie durch *Salmonella leoben* bei Säuglingen. *Mschr. Kinderh.*, 1956, 104: 454-457. 33 cases.
688. KIESEWALTER, J. Über den derzeitigen Stand der Salmonellosen in der D.D.R. *Zschr. ges. inn. Med.*, 1959, 14: 150-157. 11 references. 162 cases, of which 91 infected by the rarer types of salmonellae.
689. KNIEWALLNER, K. Über das Vorkommen von Salmonellen in Österreich. *Wien tierärztl. Mschr.*, 1958, 45: 710-716. 33% of healthy beef cattle showed infections of mesenteric, and 82% of hepatic, lymph nodes.

690. Köst, E. Über das Auftreten seltener Salmonellentypen in unserem Raum; ein Beitrag zur Infektionsquellen forschung. *Zschr. Hyg.*, 1957, 3: 391-396.
691. Kovacs, N. Salmonellae in desiccated coconut, egg pulp, fertilizer, meat meal and mesenteric glands; preliminary report. *Med. J. Australia*, 1959, 1: 557-559. 18 references.
692. Kunz, L. J., and Ouchterlony, T. J. Salmonellosis originating in a hospital; a newly recognized source of infection. *N. England J. M.*, 1955, 253: 761-763. Patients receiving formula by stomach tube. *S. oranienburg* and *S. senftenberg* isolated from formula.
693. Leeder, F. S. Epidemic of *Salmonella panama* infections in infants. *Ann. N. York Acad. Sc.*, 1956, 66: 54-60.
694. Lehmann, J. Welche Schutzmassnahmen für die Bevölkerung müssen von Keimaußcheidern der enteritischen Salmonellosen gefordert werden? *Zschr. ärztl. Fortbild.*, 1957, 51: 159-164. 1,046 cases.
695. Leopold, P.-G. Zur Klinik und Epidemiologie von *S. heidelberg*. *Zschr. ges inn. Med.*, 1959, 14: 619-632. 276 cases in Leipzig area. Table, p. 620, lists types found annually 1955-1958.
696. Levine, M., Enright, J. R., and Ching, G. Salmonellosis and shigellosis on Oahu. *Hawaii M. J.*, 1957, 17: 133-139. Less than 1% of 1,746 persons harboring salmonellae were infected by *S. typhosa* or *S. paratyphosa*.
697. Linz, R. Remarques sur des salmonella isolées dans un hôpital de Bruxelles. *Ann. Soc. Sc. méd. natur.*, Bruxelles, 1958, 11: 177-180.
698. McAnulty, E. Salmonella in Uganda. *Nature*, 1958, 181: 576-577. 10 references. 1,615 zebu cattle tested at the Kampala abattoir; 20% infected.
699. McCoy, J. H. Recent advances in the epidemiology of salmonellosis in man and animals. *Sanitarian*, 1959, 68: 117-125, passim. Incidence in England and Wales has risen since 1940 in spite of "blocking many routes."
700. MacCready, R. A., Reardon, J. P., and Saphra, I. Salmonellosis in Massachusetts; a 16-year experience. *N. England J. M.*, 1957, 256: 1121-1128. 34 references.
701. McCullough, N. B. Foods in the epidemiology of salmonellosis. *J. Am. Diet. Ass.*, 1958, 34: 254-257. List of foodstuffs and type of salmonella previously reported in literature.
702. McDonagh, V. P., and Smith, H. G. The significance of the abattoir in salmonella infection in Bradford. *J. Hyg., Lond.*, 1958, 56: 271-279. 12 references. 6 serotypes and some *Salm. typhimurium* phage types isolated, 1954-1956.
703. McGregor, A., Fairlamb, A. H., and Hutchison, A. A family infection due to *Salmonella abony*. *Med. Officer*, 1959, 102: 329-330. 12 references.
704. Mackel, D. C., Payne, F. J., and Pirkle, C. I. Outbreak of gastroenteritis caused by *S. typhimurium* acquired from turkeys. *Pub. Health Rep.*, 1959, 74: 746-748.
705. Mackey, J. P. Salmonellosis in Dar Es Salaam. *East Afr. M.J.* 1955, 32: 1-6. Area heavily endemic. Two outbreaks; salmonellae isolated from man, dog, hen, lizard, cockroach, centipede.
706. Marcuse, K., Henze, B., and Pohle, H. D. Das Vorkommen von Salmonellen in West-Berlin. 1. Enteritiskeime in den Jahren 1948-1954. *Zbl. Bakt. I. Abt. Orig.*, 1957, 169: 493-515.
707. Mathur, T. N. An outbreak of food poisoning in a family due to *Salmonella weltevreden*. *Indian J. Med. Res.*, 1959, 47: 367-370.
708. May, J. M. The ecology of human disease. New York, M.D. Publications, 1958. 325 p. Salmonellosis, p. 171-188.
709. Meyer, R. Über einige Eigenschaften des Substrats, das den Salmonellenquotienten als Absterbequotienten in Grundwasser bedingt. *Arch. Hyg. Münch.*, 1959, 145: 334-347. 9 references.
710. Meyer-Oschatz, W. Über die Häufigkeit und Verbreitung der Salmonellen in Deutschland. *J. Hyg. Epidem., Praha*, 1957, 1: 190-204. 3,577 cases 1952-1956.
711. Miller, F. M., and Freedman, B. An epidemic of enteritis laid to cross-connection. *Pub. Health Rep.*, 1958, 73: 658-661. Salmonellae infantis, panama, and oranienburg, etiologic agents.
712. Milner, K. C., Jellison, W. L., and Smith, B. The role of lice in transmission of Salmonella. *J. Infect. Dis.*, 1957, 101: 181-192. Report of research, the National Institute of Allergy and Infectious Diseases, Rocky Mountain Laboratory, Hamilton, Montana.
713. Müncow, S. "Eis am Stiel" als Ursache einer Salmonellen-Epidemie. *Deut. Gesundhswes.*, 1956, 11: 1341-1347. 42 references. Cause, "popsicles" sold by street peddler.

714. MURRAY, J. O., and WALKER, J. H. C. An outbreak of enteritis (Salmonella heidelberg) in a maternity unit. *Med. Officer*, 1958, 100: 221-222. 29 mothers and 34 babies; 31% of 226 contacts positive. Carrier state lasted from 2-10 months.
715. NAUMANN, G. Derzeitige Salmonellenbefunde in Bezirk Leipzig und ihre epidemiologische Bedeutung. *Zbl. ges. Hyg.*, 1956, 2: 421-426. An increase of salmonella infections in 1955 over 1954.
716. NEHAUL, B. B. G. Salmonella and shigella in British Guiana. *J. Trop. M. Hyg., Lond.*, 1958, 61: 48-50. S. saint paul caused outbreak in a children's hospital.
717. NEWELL, K. W., McCLARIN, R., MURDOCK, C. R., MACDONALD, W. N., and HUTCHINSON, H. L. Salmonellosis in Northern Ireland, with special reference to pigs and salmonella-contaminated pig meal. *J. Hyg., Lond.*, 1959, 57: 92-105.
718. PANTALEON, J., PORPORIS, J., BARRET, J., and BOUTON, P. Recherches sur les salmonelles des viandes. *Bull. Acad. vét. France*, 1958, 31: 129-138.
719. PARR, L. W. Bacteria of medical importance. p. 672-783. Salmonella, p. 724-736. Bacterial food poisoning, p. 784-787. In: SIMMONS, J. S., and GENTZKOW, C. J. eds. Medical and public health laboratory methods. Philadelphia, Lea & Febiger, 1955. 1191 p.
720. POPP, L. Vorfluter; ein reichhaltiges salmonellen Reservoir. *Zbl. Bakt., I. Abt. Orig.*, 1956, 66: 90-99. 26 types of groups B, C, D, and E found in receiving waters due to inlet sewage.
721. PRIMAVESI, K. A. Über einer durch Salmonella heidelberg hervorgerufene Krankenhausepidemie. *Med. Klin., Berl.*, 1956, 51: 1103-1104. Hospital epidemic, 69 cases; 133 infected but with no clinical signs.
722. \*RAO, S. B. V. Isolation of Salmonella litchfield from an outbreak in chicks in the Indian Union. *Indian J. Vet. Sc.*, 1956, 26: 131-134.
723. REPOH, H., and GÄNCEL, G. Hygienische und bodenmikrobiologische Untersuchungen auf den Landbehandlungsflächen der Stadt Bielefeld. *Arch. Hyg., Münch.*, 1958, 142: 594-608. Brief English summary does not coincide with author's data given on p. 596-599.
724. RICHTER, J., and PÖHLIG, W. Zur Epidemiologie seltener Salmonellen. *Oeff. Gesundhdienst*, 1957/58, 19: 12-20. 3 epidemics.
725. RICHTER, J. Salmonellen im Vorfluter; ein örtliches Abwasserproblem. *Städtehygiene*, 1956, 7: 101-102.
726. RINDGE, M. E., and BRUNELL, R. W. An outbreak of food-borne disease due to Salmonella oranienburg. *Connecticut M.*, 1955, 19: 20-24. 91 cases.
727. ROHDE, R., and BISCHOFF, J. Die epidemiologische Bedeutung salmonellainfizierter Tierfuttermittel (insbesondere Knochenschrot und Fischmehl) als Quelle verschiedener Lebensmittelvergiftungen. Übersichtsreferat und eigene Experimente. *Zbl. Bakt. I. Abt. Ref.*, 1956, 159: 145-164. 23 references.
728. ROHDE, R. Über das Auftreten Salmonella montevideo-bedingter Hausendemien in Hamburger Kinderkliniken. *Zbl. Bakt. I. Abt. Orig.*, 1956, 166: 67-72. Spread from original institution to others to which children were sent. Author suggests that the development of a specific bacteriophage in a patient might be cause of difficulty in isolating the organism.
729. ROTH, W. Eine Epidemie von Salmonella typhimurium. *Vjschr. schweiz. Sanitätsoff.*, 1959, 36: 33-40.
730. RUBENSTEIN, A. D., and FOWLER, R. N. Salmonellosis of the newborn with transmission by delivery room resuscitators. *Am. J. Pub. Health*, 1955, 45: 1109-1114. 3 outbreaks.
731. RUTTEN, F. J. La salmonellosis en Curaçao durante el período 1948-1954. *Bol. Of. san. panamer., Wash.*, 1957, 43: 424-432. "Frequency of infectious diseases in a community becomes evident only after the introduction of technical improvements in laboratory methods."
732. SAN JUAN, F. Estudo crítico das salmonelloses. *Hospital, Rio*, 1956, 49: 639-658. 33 references. Review of literature. 41 cases.
733. SAPHRA, I., and WINTER, J. W. Clinical manifestations of salmonellosis in man. An evaluation of 7,779 human infections identified at the New York Salmonella Center. *N. England J. M.*, 1957, 256: 1,128-1,134. S. typhosa not included in study. Intensive laboratory testing and listing of clinical signs and carriers are needed for selection of therapy and for epidemiologic information.
734. SCHÄFER, W., MARTIN, H., and HAAS, F. Darminfektionen durch salmonellenverseuchte Eikonserven. *Med. Klin., Berl.*, 1956, 51: 1254-1257. Group infections from S. thompson in Chinese preserved eggs.
735. SCHMIDT, B., and LENK, V. Zur Epidemiologie und Lysotypie von Salm. typhi bei Dauerausscheidern. *Zbl. Bakt. I. Abt. Orig.*, 1959, 112: 81-88. Phage types of carriers the same as those isolated in a 1945-1946 epidemic.

736. SCHIMDT, B., and LENK, V. Über eine bei einer Enteritis-Epidemie isolierte Mischkultur von *S. paratyphi* B und *S. java* und ihre Lysotypen. *Zbl. Bakt. I. Abt. Orig.*, 1957, 169: 366-372.
737. SEDLÁK, J. Zur Problematik der Salmonellosen in der Č.S.R. *Zschr. Hyg.*, 1959, 5: 91-102. 2,511 infections, Czechoslovakia.
738. SELIGER, H. P. R. Salmonellosis in Deutschland (1953-1955). *Arch. Hyg. Münch.*, 1956, 144: 499-528. 141 references. Data from 89 laboratories situated in the German Federal Republic and West Berlin. Distribution, frequency, epidemiology, and prevention in man and animals.
739. SEIDEL, G. Bemerkungen über den heutigen Stand der Frage der Pathogenität der Salmonellen. *Zschr. ärztl. Fortbild.*, 1957, 51: 155-158. Increasing frequency makes a campaign against these infections urgent.
740. SHAMHOLTZ, M. I. Typhoid fever outbreak among migrant workers, Winchester, Virginia, 1959. *Virginia M. J.*, 1960, 87: 100-101. 1,100 workers travelling north from Florida, their last job in Pennsylvania before coming to Virginia, were joined by some workers there, one of whom probably was a carrier.
741. SINIOS, A., TILING, E., and HANISCH, R. Klinik, Pathologie und Epidemiologie der Infektion mit *Salmonella* montevideo. *Deut. med. Wschr.*, 1957, 82: 1329-1333. 100 babies, 9 died. Carriers are more frequent than in typhoid fever.
742. SZANTON, V. L. Epidemic salmonellosis; a 30-month study of 80 cases of *Salmonella* oranienburg infection. *Pediatrics*, 1957, 20: 795-808. 12 references. 46 newborn infants, 1 died. 34 contacts became carriers.
743. TAYLOR, W. I., SILLIKER, J. H., and ANDREWS, H. P. Isolation of salmonellae from food samples. 1. Factor affecting the choice of media for the detection and enumeration of salmonella. *Appl. Microb.*, 1958, 6: 189-193. Review of established methods; detailed account of new, quicker method.
744. UTOJO, R. P. Buffaloes, cows and hogs in Indonesia as salmonella carriers. *Bull. Off. inter. epizoot.*, 1959, 51: 912-913.
745. VAN OYE, E. Les salmonellosis humains au Congo Belge et au Ruanda-Urundi; statistique sur 1,000 cas. *Acta trop., Basel*, 1959, 16: 158-165. Table 1, p. 160-162, lists 106 strains isolated.
746. VAN OYE, E., and DEOM, J. Les salmonelloses chez les oiseaux de bassecour au Congo Belge et au Ruanda-Urundi. *Bull. Off. inter. epizoot.*, 1958, 50: 337-345. 23 references. Types found in ducks, 21; fowl, 14; pigeons, 24; turkeys, 3.
747. VAN OYE, E. Les salmonellae du Congo Belge. *Ann. Soc. belge. méd. trop.*, 1956, 36: 299-306. Cattle, pigs, possibly house lizards, sources of human infections.
748. VAN OYE, E. Les salmonellae du Congo Belge, troisième rapport. *Ann. Soc. belg. méd. trop.*, 1955, 35: 229-243. Animals and humans sources of 26 types isolated.
749. VARELA, G., and AKLE DELGADILLO, J. Salmonelas y shigelas aisladas en 1954 de casos de enteritis agudas, ocurridos en Ciudad Juarez, México. *Rev. Inst. salub. enferm. trop., Méx.*, 1955, 15: 1-4. 50 cases of salmonella infections caused by 10 types of organisms.
750. VERGE, J., PARAF, A., and PETIOT, M. P. Salmonellose bovine provoquée par *Salmonella bovis* morbificans. Considérations sur l'épidémiologie et la pathogénie des salmonellosis. *Rev. immun., Par.*, 1956, 20: 19-26. 4 months after epidemic some cows still carriers.
751. WALKER, J. H. C. Organic fertilizers as a source of salmonella infection. *Lancet, Lond.*, 1957, 2: 283-284. 34 types isolated from 123 samples.
752. WATSON, W. A. *Salmonella dublin* infection in a lambing flock. *Vet. Rec., Lond.*, 1960, 72: 62-65. 16 references. Infection originated in beef herd, 1957; appeared in sheep, 1958; epidemiologic study 1959.
753. WATT, J., WEGMAN, M. E., BROWN, O. W., SCHLIESSMANN, D. J., MAUPIN, E., and HEMPHILL, E. C. Salmonellosis in a premature nursery unaccompanied by diarrheal disease. *Pediatrics*, 1958, 22: 689-705. Caused by transfer of *S. tennessee* carriers from one nursery to a "clean" nursery.
754. WINKLE, S., ROHDE, R., and BISCHOFF, J. Kritische Stellungnahme zu einem Gutachten gegen den Erlass der "Verordnung zum Schutz gegen Infektion" durch Erreger der Salmonellagruppe in Eiproduction. *Münch. med. Wschr.*, 1957, 99: 768-771. Author presents ideas in an unusual manner. 1. Statement of usually accepted fact. 2. Answer in criticism.
755. WRIGHT, H. A., NORVAL, J., and ORR, A. *Salmonella thompson* gastroenteritis; report of two outbreaks. *Brit. M. J.*, 1957, 2: 69-71.

## AUTHOR INDEX<sup>1</sup>

- Abernathy, R. S., 279  
Adams, J. N., 194  
Adams, M. H., 195  
Akiba, T., 364  
Akiyama, T., 365  
Akle Delgadillo, J., 749  
Aksoycan, N., 280  
Alderman, I. M., 452  
Alin, K., 101, 102, 369  
Allegra, G., 464  
Allison, F., Jr., 623  
Alonzo, A., 189  
Alosi, C., 301  
Altmann, G., 117, 174  
American Public Health Association, 1  
Ames, B. N., 196  
Anders, W., 465  
Anderson, A. S., 370  
Anderson, E. S., 103, 104  
Anderson, T. R., 466  
Andrews, H. P., 743  
Andreyenko, L. M., 467  
Ansiaume, E. M., 589  
Arbuzova, V. A., 627  
Ardley, J., 579  
Arogyadoss, S., 670  
Arroyo, H., 608  
Atanassowa, S., 79  
Atkinson, N., 197, 198, 199, 200, 201  
Aufdemaur, M., 468  
Axelrod, A. E., 398  
  
Baade, R., 461  
Bachrach, U., 2  
Bader, R.-E., 469  
Baggenstoss, A. H., 563  
Baker, E. E., 281  
Balows, A., 470  
Banic, S., 202, 203  
Banta, C., 486  
Baquerizo Amador, L., 3  
Barbesier, J., 282  
Barjon, P., 524  
Barnes, M. W., 510  
Baron, L. S., 4, 204, 283, 287, 587  
Barret, J., 718  
Bate, J. G., 628  
Bauer, H., 370  
Bausch, F., 594  
Baylet, R., 164, 418  
Bayne, H. G., 84, 85, 86  
Beaufort, M., 186  
Becker, M. E., 5  
Becker-Meyer, M., 471  
  
Bekker, J. H., 192  
Benacerrof, B., 237, 371  
Benenson, A. S., 297  
Bengtsson, E., 629  
Bennett, I. L., Jr., 630  
Bergner-Rabinowitz, S., 6  
Berger, K., 472  
Berrocal Soto, A., 480  
Berry, L. J., 7, 8  
Bertani, G., 205, 206  
Bhagwan Singh, R., 105  
Bidwell, D. E., 207  
Bilanow, H., 106, 141  
Biozzi, G., 371  
Bischoff, J., 171, 631, 727, 754  
Blache, R., 497  
Black, P. H., 473, 474, 632  
Bladel, B., 397  
Blaxland, J. D., 372, 633  
Bleloch, M., 107  
Blomstrand, I., 224  
Blum, H., 634  
Bo, G., 284, 285, 294, 330, 331  
Bobra, S. T., 475  
Böhlek, I., 108, 671  
Böttiger, L. E., 476  
Bövre, K., 373  
Boggian, B., 477  
Bohnhoff, M., 430  
Bokkenheuser, V., 109, 110, 165, 184, 635, 636  
Bonét-Maury, P., 76  
Bool, P. H., 111  
Borbolla, L., 615  
Boring, J. R., 655  
Bouton, P., 718  
Boen, S. T., 374, 375  
Boyd, J. M., 637  
Boyd, J. S. K., 207  
Boyer, C. I., Jr., 376, 377  
Boyer, F., 386  
Boyle, M. H., 478  
Brandis, H., 9, 208, 209, 578  
Brenner, S., 10, 210  
Bres, P., 483  
Briceno Iragorry, L., 378  
Bridges, J. F., 449  
Brobst, D., 379  
Brocke, H., 11  
Brodhage, H., 638  
Brodsky, L., 505  
Brown, C. M., 380  
Brown, J. A., 376  
Brown, O. W., 753  
Brown, R. N., 684

<sup>1</sup> Numbers refer to items in bibliography.

- Brown, W. G., 639  
 Browning, P. M. H., 112  
 Bruce, V. G., 12  
 Brunell, R. W., 726  
 Bruner, D. W., 286, 376  
 Brunner, L., 381  
 Bryer, M. S., 595  
 Bullas, L. R., 197, 199  
 Bulling, E., 211  
 Bundesst., R. R., 640  
 Burkhardt, F., 479  
 Burnet, F. M., 212  
 Burrous, J. W., 363  
 Burrows, W., 13  
 Bustelo, E. V., 589  
 Buttiaux, R., 14  
 Buxton, A., 15, 382, 641  
 Caldwell, W., 16  
 Callahan, W. S., 383  
 Callis, L. M., 642  
 Callow, B. R., 213  
 Cameron, J. A., 17, 384, 414  
 Campbell, C. G., 532  
 Capponi, M., 428, 643  
 Caraway, C. T., 385  
 Carey, W. F., 4, 204, 287  
 Carlquist, P. R., 18  
 Carlson, M. C., 297  
 Carrillo, J., 552  
 Carrión-Clichón Arbulu, H., 480  
 Carroll, D. S., 536  
 Caruana, M., 644, 682  
 Casetta, R., 24  
 Castermans, A., 288  
 Cavalli-Sforza, L. L., 214  
 Cefalu, M., 215  
 Chabbert, Y., 377  
 Chambon, L., 483, 484  
 Charié-Marsaines, C., 155, 156, 159, 168  
 Chedid, L. 386,  
 Cheever, F. S., 485  
 Ch'en, Y.-L., 669  
 Cheng, C., 533  
 Cherry, W. B., 94, 299  
 Ching, G., 696  
 Choremis, K., 486  
 Chow, P.-C., 669  
 Christian, J. H. B., 19  
 Ch'ui, C.-C., 669  
 Cirie, M., 75  
 Clancy, C. F., 496  
 Clarenburg, A., 143, 192, 387  
 Clemens, H., 23  
 Clement, D. H., 597  
 Clemmer, D. I., 388, 449  
 Clowes, R. C., 216, 217  
 Clyde, W. A., 487  
 Cohen, J. R., 651  
 Coleman, M. B., 113  
 Collard, P., 114, 115, 289, 389, 390, 391, 529,  
     645  
 Colobert, L., 218, 219  
 Comes, R., 292  
 Compagnucci, M., 290  
 Conroy, J. V., 488  
 Cook, C., 438  
 Cooper, G. N., 20, 489  
 Cooper, G. R., 532  
 Cope, J. A., 491  
 Copeland, J. R., 573  
 Cordaro, S., 490  
 Corpe, R. F., 491  
 Costa, G. A., 291  
 Courter, R. D., 646  
 Crillos, O. T., 552  
 Crowther, R. W., 392  
 Cuadra, M., 492  
 Curbelo, A., 259  
 Dack, G. M., 493  
 D'Allesandro, G., 292  
 Daniel, R., 494  
 Darrasse, H., 159, 160, 163, 647  
 Datta, N., 354  
 Dauer, C. C., 648, 649, 650  
 Davarpanah, C., 293, 358  
 Davids, D. J., 648  
 Davis, B. R., 299  
 De Blasi, R., 495  
 Decker, E. H., 651  
 Decker, J. P., 496  
 Defranceschi, A., 294, 331  
 De Gregorio, P., 295, 296  
 De La Cruz, E., 652  
 Delage, B., 158  
 Delahousse, J., 483, 497  
 De La Torre, J. A., 498, 499  
 Del Carpio, C., 215  
 Delgado, V., 378  
 Demanet, J. C., 500  
 Demerec, M., 220, 221, 222, 223, 224  
 Demerec, Z. E., 224  
 Denison, G. A., 653  
 DeNooy, J. A., 192  
 Deom, J., 746  
 Deparis, M., 501  
 Derrick, J., 515  
 Devine, J. V., 651  
 Dietze, G., 21  
 Diverneau, G., 337  
 Dochkin, I. I., 654  
 Doering, P., 22, 23, 33  
 Donald, G., 502  
 Dooley, E. S., 393, 394  
 Dossena, G., 503  
 Dotti, F., 24  
 Doty, F., 25  
 Doyle, L. P., 412  
 Drachman, R. H., 655  
 Dräger, H., 656  
 Dréan, D., 157, 158, 161, 162  
 Drislane, A. M., 332  
 Dubin, D. T., 196  
 Dubos, R. J., 61  
 Dunphy, D., 333  
 Du Pasquier, P., 590  
 Earle, H., 325  
 Ederer, B., 504  
 Edsall, G., 297  
 Edwards, P. R., 26, 27, 28, 29, 42, 49, 94, 109,  
     116, 117, 118, 119, 120, 121, 142, 147, 148,  
     157, 166, 167, 170, 172, 176, 178, 298, 299,  
     349, 423, 657, 658, 659  
 Eigner, J., 25

- Eisenberg, G. M., 505, 506, 513, 514, 620  
 Eliakim, M., 507  
 Ellenbogen, N. C., 508  
 Engelberg, E., 225  
 Enomoto, Y., 269  
 Enright, J. R., 696  
 Entner, N., 225  
 Erber, M., 660  
 Esparza, H., 499  
 Ewing, W. H., 26, 27, 29  
 Fairlamb, A. H., 703  
 Falkow, S., 30  
 Fari, A., 300  
 Faucon, R., 661  
 Feinberg, S. B., 526  
 Felix, A., 122, 662  
 Ferlazzo, A., 290, 301  
 Ferrari, M., 663  
 Ferreira, I., 305  
 Fey, H., 123  
 Fichera, G., 302, 490  
 Fife, M. A., 26, 28, 116, 117, 118, 119, 142,  
     298, 423  
 Finger, D., 509  
 Finland, M., 510  
 Fischer, G. W., 31, 511  
 Fishman, M., 395  
 Fitzgerald, J., 512  
 Flamm, H., 303  
 Flippin, H. F., 505, 506, 513, 514, 620  
 Floyd, T. M., 124  
 Foder, A. R., 304  
 Foltz, E. E., 515  
 Formal, S. B., 283, 297  
 Forster, F. M. C., 664  
 Forte, A., 295  
 Fortin, J., 516  
 Fourrier, A., 608  
 Fowler, R. N., 730  
 Francesconi, G., 290  
 Frank, J. F., 32, 100  
 Fredericq, P., 226  
 Freedman, B., 665, 711  
 Friday, F. M., 666  
 Friedman, S., 125  
 Fritsch, H., 667  
 Fritsch, E., 22, 23, 33  
 Froehner, H., 396  
 Fromme, D., 34  
 Fromme, W., 668  
 Fu, J.-S., 669  
 Fujita, J., 317, 318  
 Fukasawa, T., 227, 228  
 Fukuda, T., 126  
 Fukumi, H., 126  
 Fulton, M., 229, 397  
 Furness, G., 35, 305, 398  
 Gabbielli, G., 495  
 Gadeholt, H., 518  
 Gaebler, O. H., 230  
 Gängel, G., 723  
 Gärtner, H., 519, 671  
 Gaines, S., 322, 323  
 Galaev, I. V., 54  
 Galton, M. M., 399  
 Ganguli, S., 44, 127, 670  
 Garen, A., 231  
 Garlock, F. C., 528  
 Garren, H. W., 408  
 Gastaldi, C., 232  
 Gay, K., 520  
 Gayler, G. E., 672  
 Gebhardt, H., 585  
 Gelzer, J., 307  
 Gentzkow, C. J., 719  
 Geraci, J. E., 521  
 Gezon, H. M., 379, 522  
 Gilfillan, R. F., 400, 401  
 Gillespie, R. E., 452  
 Gilmore, L. K., 523  
 Gino, R. M., 334  
 Ginsbourger, N., 571  
 Giraud, G., 524  
 Gitter, M., 402  
 Giuffrida, G., 63  
 Glass, B., 58  
 Goldenberg, I. S., 525  
 Golman, I., 222  
 Golub, E. G., 233  
 Goode, G., 342  
 Gordon, R. F., 403  
 Gordón De Camín, D. L., 589  
 Gorshina, L. V., 308  
 Gorzynski, E. A., 332, 334, 335  
 Gots, J. S., 233  
 Gowen, J. W., 234, 263, 355, 374, 375  
 Graber, C. D., 43  
 Gradinger, J., 420  
 Grant, J., 673  
 Grant, L. S., 128, 520  
 Greenberg, B., 36, 37  
 Greenberg, J., 379  
 Greenberg, M., 635  
 Greenspan, R. H., 526  
 Grinewitsch, C., 309  
 Grossman, L., 508  
 Grosz, H. J., 404  
 Grüttner, F., 396  
 Grumbach, A., 469  
 Guerra Chabau, A., 615  
 Guerro Iturbe, A., 674  
 Gulasekharan, J., 129, 675  
 Gumhold-Josipović, I., 75  
 Gunderson, M. F., 67  
 Gwatkinn, R., 309  
 Haas, F., 734  
 Haas, R., 405  
 Haggerty, J., 625  
 Haire, W. C., 399  
 Hakim, A. C., 527  
 Halliday, R., 310  
 Hanbury, W. J., 602  
 Handloser, H. M., 676  
 Hanisch, R., 741  
 Hansen, H. J., 445  
 Hanson, L. E., 442  
 Harada, K., 311, 312  
 Harding, H. B., 515  
 Hardy, A. V., 399  
 Harris, A. H., 332  
 Harris, M. E., 313  
 Hartman, P. E., 220  
 Hartsell, S. E., 5, 65

- Harvey, R. W. S., 38  
Hauser, G. H., 385  
Hauser, K. W., 406  
Heather, C. D., 407  
Hedlund, P., 629  
Heilborn, V., 102, 130, 131, 151  
Heinertz, N. O., 102  
Heinrich, H., 39  
Hemphill, E. C., 753  
Henderson, N. D., 528  
Hendricks, R. G., 529  
Henze, B., 136, 677, 706  
Herbsman, H., 530  
Herin, V., 186  
Hermann, G., 511  
Herold, H., 550  
Hilburg, L. E., 586  
Hill, C. H., 408  
Hinton, N. A., 40  
Hirsch, W., 132, 174, 175  
Hirschberg, I., 66  
Hite, K. E., 52  
Hobbs, B. C., 678  
Hobbs, F. B., 531  
Hobson, D., 409, 410  
Hoffmann, K., 133  
Hofmann, P., 134, 679  
Hofmann, S., 135, 136, 137, 152, 208  
Holmqvist, H., 457  
Holpern, B. N., 371  
Holtman, D. F., 17, 393, 394, 400, 401, 414  
Hoogstraal, H., 124  
Hook, E. W., 532, 630  
Horowitz, A., 680  
Howarth, S., 235  
Hoyer, B. H., 342  
Hoyt, R. E., 41  
Hsü, H.-C., 533  
Huber, P., 534  
Hudemann, H., 193, 236  
Hudson, C. B., 411  
Huet, M., 535, 644, 681, 682  
Huey, C. R., 42  
Hughes, J. G., 536  
Hughes, K. E., 138  
Hughes, M. H., 139, 314  
Humbert, R., 537, 562  
Hunt, J. A., 606  
Hurst, H. L., 412  
Hussain, K. K., 612  
Hutchison, A., 703  
Hutchinson, H. L., 717  
Huygelen, C., 437  
  
Ikari, N., 325  
Innes, J. R. M., 413  
Ino, J., 43  
Ino, T., 243  
Ippen, R., 683  
Irani, S. B., 44  
Iseki, S., 315  
Ismangoen, 538  
  
Jackson, D. C., 539  
James, U., 628  
Jarniou, A. P., 540, 541  
Jeffries, C. D., 17, 394, 414  
Jellard, C. H., 684  
  
Jellison, W. L., 712  
Jenkin, C. R., 237, 415  
Jeynes, M. H., 45  
Joachim, A., 46  
Joest, W., 177, 542  
Johnson, A. G., 324  
Joint WHO/FAO Expert Committee on  
Zoonoses, 685  
Jolly, H., 684  
Jones, W. F., Jr., 510  
Josland, S. W., 140  
Juenker, A. P., 141, 543  
Juhász, I., 272  
Jung, A., 544  
Junker, A. P., 106  
  
Kabler, P. W., 53  
Kafka, A., 545  
Kaji, T., 417  
Kall, W., 133  
Kallings, L. O., 238, 270  
Kamalian, L. A., 467  
Kampelmacher, E. H., 47, 111, 142, 143, 316,  
387, 455  
Kan, C.-J., 669  
Kanton, E. T., 686  
Karpinski, W., 687  
Kashiagi, K., 315  
Katsuno, M., 317, 318  
Kauffmann, F., 48, 49, 50, 51, 144, 145, 146,  
147, 148, 178, 280  
Kaufmann, F., 123, 149, 150, 151, 152, 153  
Kauter, E., 416  
Kawakami Y., 329, 417  
Keisewalter, J., 135, 240  
Kelly, F. C., 52  
Kenner, B. A., 53  
Kerridge, D., 239  
Khomik, S. R., 54  
Kiesewalter, J., 240, 688  
Kikuth, W., 469  
King, G. J., 138  
Kirsche, P., 164, 418  
Kitao, T., 126  
Kjeldgaard, N. O., 55, 71  
Klauss, C., 201  
Kleinmaier, H., 546  
Klotz, G., 419  
Knapp, W., 319  
Kniewallner, K., 689  
Knorr, M., 585  
Köhn, A., 547  
Köst, E., 566, 690  
Kohler, H., 320  
Kolmar, D., 321  
Kondo, I., 269  
Konforti, N., 66  
Konstantinow, G., 79  
Kovacs, N., 691  
Krag, D., 548  
Krauter, S., 549, 550  
Kristensen, M., 241  
Kronenberger, F. L., 551  
Kubin, G., 420  
Kumate, J., 552  
Kunz, C., 303  
Kunz, J., 617

- Kunz, L. J., 473, 474, 632, 692  
 Kurosoka, K., 269  
 Labraque-Bordenave, M., 154  
 Lahr, E. L., 222  
 Lambotte-Legrand, C., 553  
 Lambotte-Legrand, J., 553  
 Landy, M., 56, 68, 81, 322, 323, 324  
 Lapeyssonnie, L., 497  
 Lark, K. C., 242  
 Larson, C. L., 342  
 Latour, H., 524  
 Laughner, S. M., 256  
 Laurell, A. B., 238  
 Laurell, G., 131  
 Laver, J. C., 664  
 Lawson, R. B., 603  
 Laylee, A. M., 554  
 Lázaro Benavides, V., 552  
 Lederberg, J., 243, 244, 245  
 Lederbogen, K., 594  
 Lee, P. E., 421, 422  
 Leeder, F. S., 693  
 Lehmann, J., 694  
 Lehnert, E., 57  
 Le Minor, L., 155, 156, 157, 158, 159, 160,  
     161, 162, 163, 164, 168, 255, 423, 428  
 Le Minor, S., 164  
 Lenk, V., 735, 736  
 Leopold, P.-G., 695  
 Lesko, M., 397  
 Le Tellier, H., 161  
 Levine, M., 246, 247, 696  
 Levy, A., 524  
 Levy, P. R., 10  
 Lewis, A. L., 399  
 Lieberman, R., 325  
 Lin, C.-C., 669  
 Linder, F., 465  
 Linke, H., 424  
 Linz, R., 697  
 Linzenmeier, G., 133  
 Lipp, R., 326, 555  
 Loddo, B., 327  
 Logerlöf, B., 476  
 Lok, B., 387  
 Lombardo, G., 301  
 London, S. A., 248  
 Loock, K. H., 556  
 Lowe, A. F., 165  
 Lu, S-T., 557  
 Lucasse, C., 186, 188  
 Lüderitz, O., 34, 334, 335, 356  
 Lund, B., 147  
 Lundström, R., 558  
 Luria, S. E., 194, 363  
 Maale, G., 12  
 Maaløe, O., 55, 71, 242  
 McAnulty, E., 698  
 McClarin, R., 717  
 McCoy, J. H., 699  
 MacCready, R. A., 672, 700  
 McCullough, N. B., 325, 701  
 McDonagh, V. P., 702  
 MacDonald, W. N., 717  
 McElroy, W. D., 58  
 McGregory, A., 703  
 Mackel, D. C., 399, 704  
 McKendrick, W., 502  
 McKernan, B. F., 672  
 Mackerras, I. M., 421  
 Mackey, J. P., 705  
 McNaught, W., 183  
 McWhorter, A. C., 118, 119, 120, 121, 148,  
     176  
 Magasaik, B., 58  
 Mage, J., 559  
 Maier, L., 560  
 Makino, T., 185  
 Malmborg, A.-L., 101  
 Mann, P. H., 59  
 Mannweiler, E., 561, 562  
 Maquet, R., 190  
 Marcuse, K., 706  
 Margadant, A., 123  
 Marmur, J., 25  
 Marquez, V., 259  
 Martin, G. K., 639  
 Martin, H., 734  
 Martin, P., 559  
 Martin, W. J., 563, 599  
 Mason, R. J. A., 328  
 Massa, A., 564  
 Massimann, W., 320  
 Mathur, T. N., 707  
 Matney, T. S., 249  
 Matumoto, M., 417  
 Maupin, E., 753  
 May, J. M., 708  
 Mayes, O., 46  
 Mayfield, D. R., 565  
 Medlock, J. M., 502  
 Merchant, I. A., 60  
 Meyer, M., 566  
 Meyer, R., 709  
 Meyer-Oschatz, W., 710  
 Meynell, E. W., 425  
 Meynell, G. G., 425, 426, 427  
 Miles, A. A., 99  
 Mille, R., 157, 428  
 Miller, C. P., 429, 430  
 Miller, F. M., 711  
 Milner, K. C., 342, 343, 449, 712  
 Mintzer, L., 72, 73  
 Mitsushashi, S., 329  
 Miyake, T., 250  
 Moeller, M., 177, 594  
 Molesse, A., 567  
 Monigand, G., 501  
 Montefore, D., 289  
 Montero Rodríguez, A., 568  
 Monteverde, J. J., 431, 432  
 Moore, B., 433  
 Moore, J. M., 112  
 Moran, A. B., 117, 166, 167, 434  
 Moreau, A., 540, 541  
 Morel, P., 435  
 Morgan, H. R., 61  
 Moriaméz, J., 14  
 Morlock, C. G., 563  
 Morse, M. L., 251  
 Mortelmans, J., 436, 437  
 Mountford, P. F., 569  
 Münchow, S., 713  
 Münker, W., 454

- Muncy, P. A., 575  
 Murata, Y., 126  
 Murdock, C. R., 717  
 Murray, J. O., 714  
 Nadarajah, K. N., 129  
 Nagai, M., 329  
 Nakagawa, T., 364  
 Nakano, M., 365  
 Namioka, S., 70, 172  
 Nasz, I., 62  
 Naumann, G., 715  
 Naumann, P., 570  
 Nava, G. C., 284, 285, 294, 329, 330, 331  
 Nazaud R., 163  
 Néel, R., 158, 168  
 Nehaul B. B. G., 716  
 Neiman, N., 571  
 Nelson, C. B., 370  
 Nessler, H., 544  
 Neter, E., 332, 333, 334, 335  
 Nérot, A., 336  
 Newell, K. W., 572, 717  
 Nichols, D. R., 599  
 Nicolle, P., 252, 337  
 Nikaido, H., 227, 228  
 Niles, G. R., 675  
 Nisell, A., 629  
 Nishimura, T., 456  
 Niutta, R., 63, 464  
 Nobles, B., 407  
 Nordenstam, H., 629  
 Norton, J., 404  
 Norton, P., 673  
 Norval, J., 755  
 Nowotny, A., 34  
 Olarte, J., 46, 498, 499  
 Olitsky, I., 573  
 Olson, B. A., 528  
 Omuki, E., 315  
 Orr, A., 755  
 Ortali, V., 254  
 Osborne, W. W., 88  
 Ouchterlony, T. J., 692  
 Ovalekar, K. I. R., 64  
 Ozeki, H., 221, 253  
 Packer, R. A., 60  
 Palazzola, A. J., 506  
 Palmer, D., 237  
 Pan American Sanitary Bureau, 574  
 Pantaleon, J., 718  
 Paraf, A., 750  
 Parker, M. T., 380  
 Parr, L. W., 719  
 Paterson, J. S., 438  
 Pathak, R. C., 439  
 Patrizio, R. J., 575  
 Payne, E. H., 613  
 Payne, F. J., 655, 704  
 Penso, G., 254  
 Perdrix, J., 255  
 Pérez, J. L., 552  
 Perreau, P., 155, 156  
 Perrine, T. D., 342, 343  
 Petersen, A., 50, 144  
 Petersen, K. F., 405, 576  
 Petersen, N. J., 655  
 Peterson, R. G., 65  
 Petiot, M. P., 750  
 Petrosian, E. A., 338  
 Phillips, W. P., 577  
 Pickett, M. J., 41, 256  
 Pierson, M., 571  
 Pillemor, L., 56  
 Pinckers, F., 437  
 Pirkle, C. I., 704  
 Planchon, M., 255  
 Platou, R. V., 611  
 Platz, C., 152  
 Pöhlig, W., 724  
 Pohl, G., 137  
 Pohle, H. D., 706  
 Polanetzki, U., 169, 578  
 Poole, P. M., 579  
 Popp, L., 720  
 Porporis, J., 718  
 Pranka, G., 550  
 Prieto, E., 615  
 Primavesi, K. A., 721  
 Pulver, W., 634  
 Quadling, C., 257  
 Rabe, E. F., 580, 581  
 Raettig, H., 339, 340, 341  
 Raim, J., 508  
 Ralaimihoatra, 661  
 Ralston, E. L., 582  
 Ramsey, C. H., 116, 170, 349  
 Ranc, A., 583  
 Rao, S. B. V., 722  
 Rappaport, F., 66  
 Rasch, K., 440  
 Ravin, A. W., 258  
 Ravisse, P., 162  
 Reardon, J. P., 672, 700  
 Reedy, R. J., 98  
 Reiter, R., 441  
 Reploh, H., 723  
 Rey, L., 76  
 Rhoades, H. E., 442  
 Ribi, E., 342, 343  
 Rich, M., 584  
 Richter, J., 724, 725  
 Richter, K. H., 585  
 Rifkin, D., 430  
 Rindge, M. E., 726  
 Roberts, A. R., 586  
 Roberts, D. W. T., 587  
 Roberts, N. C., 385  
 Rockwood, S. W., 53  
 Rodríguez Baquerizo, O., 3  
 Rogers, R. E., 67  
 Rohde, R., 171, 344, 345, 622, 727, 728, 754  
 Rohrs, H., 570  
 Rosen, F. R., 68  
 Rosen, F. S., 81  
 Rosenthal, M. H., 573  
 Rosove, L., 588  
 Ross, M. A., 413  
 Ross, R. T., 400, 401  
 Rostock, O., 242  
 Roth, W., 729  
 Roujon, J., 524

- Rowley, D., 346, 415  
 Rubenstein, A.D., 730  
 Ruiz López, A., 589  
 Ruiz Reyes, G., 69  
 Rutqvist, L., 130, 151, 443, 457  
 Rutten, F. J., 121, 731  
 Sacquet, E., 347  
 St. Mary, E., 584  
 Saito, K., 365  
 Sakaguchi, G., 90  
 Sakazaki, R., 70, 172  
 Saliceti, E., 590  
 Salisbury, R. M., 444  
 Salmon, J., 348  
 Samaille, J., 164  
 San Juan, F., 732  
 Sandbu, P., 173, 373  
 Sanguineti, M. C., 591  
 Sant, M. V., 64  
 Saphra, I., 125, 259, 274, 366, 592, 626, 700, 733  
 Sapir-Hirsch, R., 132, 174, 175  
 Sasahara, T., 126  
 Saslaw, M. S., 603  
 Scarpioni, L., 503  
 Schaechter, M., 55, 71  
 Schäfer, W., 593, 734  
 Schäffer, C., 72  
 Schäfler, S., 72, 73  
 Schafer, E., 546  
 Schebitz, H., 445  
 Schewe, E., 446  
 Schildkraut, C., 25  
 Schildmeyer, 447  
 Schimizu, T., 417  
 Schliessmann, D. J., 753  
 Schmid, E. E., 176  
 Schmidt, B., 735, 736  
 Schmidt-Lange, W., 177, 594  
 Schneider, H. A., 260  
 Schneider, P. A., 448  
 Schneierson, S. S., 595  
 Schneweis, K.-E., 74  
 Schoetter, M., 145  
 Scholtens, R. T., 261, 262  
 Schrire, L., 107, 178, 179, 596  
 Schubert, J. H., 349  
 Schwarz, P., 75  
 Scott, A. E., 385  
 Sedláček, J., 737  
 Seeliger, H., 147  
 Seeliger, H. P. R., 180, 181, 738  
 Seidel, G., 739  
 Seidenstücker, H., 180, 181  
 Sen, R., 114, 115, 289, 389, 390, 391, 645  
 Servant, P., 76  
 Shaff, G., 600  
 Shaffer, M. F., 449  
 Shamholtz, M. I., 740  
 Shankel, D. M., 249  
 Shean, D. B., 548  
 Shear, M. J., 81  
 Shearer, G. C., 450  
 Sherwood, N. P., 77  
 Shiga, K., 78  
 Shimabayashi, K., 78  
 Shipolini, R., 79  
 Shirlaw, J. F., 350  
 Sickinger, C. M., 113  
 Sieburth, J. M., 80, 351  
 Silliker, J. H., 352, 743  
 Silver, C. M., 598  
 Silver, H. K., 597  
 Silverman, M. S., 395  
 Simmons, J. S., 719  
 Simon, J. L., 597  
 Simon, S. D., 598  
 Singh, C. M., 439  
 Singleton, R. T., 512  
 Siniots, A., 741  
 Skarnes, R. C., 81  
 Sluvko, A. L., 82  
 Smith, B., 712  
 Smith, H. G., 551, 702  
 Smith, H. W., 353, 451  
 Smith, W. W., 452  
 Smither, A. M., 372, 633  
 Snyder, M. J., 512  
 Sojka, W. J., 372, 633  
 Soman, S., 44  
 Spicer, C. C., 354  
 Spilman, W. M., 4, 204  
 Spink, W. W., 279  
 Spittel, J. A., 563, 599  
 Spössig, M., 566  
 Spring, H., 322, 323  
 Stadler, J., 263, 355  
 Stanley, W. M., 212  
 Starlinger, P., 264  
 Staub, A. M., 96, 293, 356, 357, 358  
 Stein, H., 600  
 Stellmacher, W., 83, 265, 359  
 Stenström, R., 601  
 Stephan, W., 465  
 Stevenson, J. S., 112, 183  
 Stewart, T., 453  
 Stocker, B., 245  
 Stocker, B. A. D., 266, 267, 268  
 Stokes, J. L., 84, 85, 86, 87, 88  
 Stoll, L., 683  
 Storch, I., 209  
 Story, P., 602  
 Strauch, D., 454  
 Strauss, L., 626  
 Streitfeld, M. M., 603  
 Stuckey, J. H., 530  
 Stutz, L., 604, 605  
 Suárez Puerto, A. M., 69  
 Sugimura, K., 417  
 Sugiyama, T., 365  
 Sulzbacher, F., 180, 181  
 Sureau, P., 643  
 Suter, E., 89, 307  
 Sutmöller, P., 455  
 Suzuki, K., 90  
 Swartz, M. N., 473, 474, 632  
 Sylvester, G., 650  
 Szanton, V. L., 742  
 Talbot, J. M., 606  
 Tanaka, A. M., 530  
 Tanaka, N., 456  
 Tanigawa, H., 126  
 Tauber, O. E., 374, 375  
 Taylor, A. W., 639

- Taylor, J., 91  
 Taylor, W. I., 92, 352, 743  
 Tedeschi, G., 567  
 Ten Eyck, F. W., 607  
 Terada, M., 269  
 Thal, E., 57, 270, 443, 457  
 Thiodet, J., 608  
 Thomas, C., 93  
 Thomas Mair, E. M., 609  
 Thomason, B. M., 94  
 Thome, M., 155, 156  
 Thomsen, M., 9  
 Thomson, S., 610  
 Thonier, J., 682  
 Thurman, W. G., 611  
 Tiedje, E., 171, 345  
 Tiling, E., 741  
 Timakov, V. D., 95  
 Tinelli, R., 96, 356, 357  
 Toba, A., 360  
 Tolnai, G., 361  
 Torlone, V., 362  
 Toussaint, W., 184  
 Trefonowa, A., 79  
 Truscott, R. B., 458  
 Tucker, J. F., 403  
 Tudor, D. C., 411  
 Twinning McMath, W. F., 612  
  
 Uchida, T., 271  
 Uetake, H., 185, 271, 363, 364  
 Ugueto, C., 378  
 Urteaga, B., 613  
 Ushiba, D., 365  
 Utian, H. L., 614  
 Utojo, R. P., 744  
  
 Vadász, J., 271  
 Valledor, T., 615  
 Van Oye E., 120, 145, 146, 186, 187, 188, 745,  
     746, 747, 748  
 Varela, G., 189, 749  
 Vásquez, A., 189  
 Vassiliadis, P., 190  
 Vece, A., 616  
 Velaudapillai, T., 129, 176, 191, 273, 675  
 Velho, E. L., 459  
 Vella, E. E., 460  
 Verge, J., 750  
 Villalpando, E. E., 499  
 Villela, G. G., 291  
 Vingiani, A., 567  
 Vink, H. H., 192  
  
 Waddell, W. R., 617  
 Waisbren, B. A., 618  
  
 Walker, J. H. C., 714, 751  
 Wallace, C. E., 623  
 Washington, O., 283  
 Wasserman, M. W., 125, 274  
 Watanabe, M., 275, 276  
 Watanabe, S., 70  
 Watanabe, T., 97, 275, 276  
 Watson, K. C., 619  
 Watson, W. A., 752  
 Watt, J., 753  
 Weens, H. S., 532  
 Wegman, M. E., 753  
 Weil, A. J., 366  
 Weiss, W., 505, 620  
 Welch, H., 98  
 Wellman, W. E., 607  
 Westphal, O., 34, 334, 335, 356  
 Whiteside, E., 281  
 Wildführ, G., 193, 621  
 Williams, J. E., 313  
 Williams, R. E. O., 104  
 Wilson, A. N., 461  
 Wilson, C., 413  
 Wilson, G. S., 99  
 Wilson, J. B., 93  
 Wilson, J. E., 462  
 Wilson, J. G., 678  
 Wilson, M. M., 489  
 Wilson, M. S., 113  
 Winkle, S., 622, 754  
 Winkler, U., 277  
 Winter, J. W., 733  
 Wintermere, D., 98  
 Wofford, J. D., 623  
 Wolle-John, R., 134, 679  
 Womack, A. M., 624  
 Wood, W. B., Jr., 509  
 Wright, G. W., 32, 100  
 Wright, H. A., 755  
 Wright, W. W., 98  
 Wyss, O., 249  
  
 Yamaguchi, Y., 329  
 Yannakos, D., 486  
 Yonemura, T., 78  
 Yoshiyuki, T., 456  
  
 Zai, M., 625  
 Zak, F. G., 626  
 Zetterberg, G., 238  
 Zimmermann, H., 463  
 Zimmerman, L. E., 466  
 Zinder, N. D., 231, 278, 367, 368  
 Zvenigorodskiaia, V. P., 338















NATIONAL LIBRARY OF MEDICINE



NLM 03029661 5